



STIC Search Report

EIC 1700

STIC Database Tracking Number: 128391

TO: John McPherson

Location: REM 9C73

Art Unit : 1756

August 3, 2004

Case Serial Number: 10/642212

From: Kathleen Fuller

Location: EIC 1700

REMSSEN 4B28

Phone: 571/272-2505

Kathleen.Fuller@uspto.gov

Search Notes

There was only one structure from the query representing the ring opened derivative and 2 CA references both to the applicants. These 2 references also had the ketopyrrole starting material. I also searched the ketopyrrole ring with the utility and printed 24 references.



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher or contact:*

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to EIC1700 REMSEN 4B28



SEARCH REQUEST FORM

Scientific and Technical Information Center

10/642,212

Requester's Full Name: John M. Pherson Examiner #: 70464 Date: 7/28/04
 Art Unit: 1756 Phone Number: 301 272-1386 Serial Number: 10/642,212
 Mail Box and Bldg/Room Location: REM 9L73 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Coloring Material and Color Filter

Inventors (please provide full names): Toshio Yoshitaka, Kiyoshi Ito, Kazuhiko Nakamura,
Minoru Furukawa, Abdul Iqbal, Zhimin Zhao

Earliest Priority Filing Date: 8/17/00 US, 8/26/99 JAPAN.

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search for a pyrrole[3,4-c]pyrrole derivative produced by converting at least one ketopyrrole group in formula (I) to a ring opened group of structure (V).

A copy of claim 53 is attached, as well as an example of the ring opened derivative (see compound 1).

Note that D and E of formula (I) are each (II), (III) or (IV). A compound having one of D/E as hydrogen is shown in a comparative example (which is also attached, see compound 2)

Thanks.
Jay

STAFF USE ONLY

Searcher: K. Fuller

Searcher Phone #: _____

Searcher Location: _____

Date Searcher Picked Up: _____

Date Completed: 8/3/04

Searcher Prep & Review Time: 30

Clerical Prep Time: _____

Online Time: 25

Type of Search

NA Sequence (#) _____

AA Sequence (#) _____

Structure (#) 2

Bibliographic _____

Litigation _____

Fulltext _____

Patent Family _____

Other _____

Vendors and cost where applicable

STN _____

Dialog _____

Questel/Orbit _____

Dr.Link _____

Lexis/Nexis _____

Sequence Systems _____

WWW/Internet _____

Other (specify) _____

=> FILE REG

FILE 'REGISTRY' ENTERED AT 13:56:42 ON 03 AUG 2004
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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 2 AUG 2004 HIGHEST RN 721395-02-4
DICTIONARY FILE UPDATES: 2 AUG 2004 HIGHEST RN 721395-02-4

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 13:56:47 ON 03 AUG 2004
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FILE COVERS 1907 - 3 Aug 2004 VOL 141 ISS 6
FILE LAST UPDATED: 2 Aug 2004 (20040802/ED)

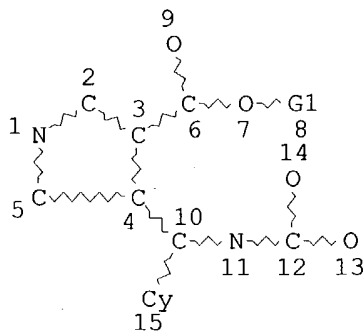
This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE L13

L5 611 SEA FILE=REGISTRY ABB=ON 180.31.4/RID
L6 STR

ring identifier for

R[]=N



*structure query for
ring opened derivative*

*only 1 structure
found*

VAR G1=AK/H
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L8 1 SEA FILE=REGISTRY SSS FUL L6
L9 2 SEA FILE=HCAPLUS ABB=ON L8
L10 199 SEA FILE=HCAPLUS ABB=ON L5
L11 2 SEA FILE=HCAPLUS ABB=ON L9 AND L10
L12 1 SEA FILE=HCAPLUS ABB=ON L10 AND RING?(3A)OPEN?
L13 2 SEA FILE=HCAPLUS ABB=ON L11 OR L12

=> D L13 ALL 1-2 HITSTR

L13 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:221739 HCAPLUS
DN 134:253732
ED Entered STN: 29 Mar 2001
TI Substituted pyrrolo[2,3-c]pyrrole-1,4-diketone type compounds and their
single **ring-opening** derivatives for colorants
IN Iqbal, Abul; Hao, Zhimin; Yoshihara, Toshio; Ito, Kiyoshi; Nakamura,
Kazuhiko; Furukawa, Minoru
PA Ciba Specialty Chemicals Holding, Inc., Switz.; Dai Nippon Printing Co.,
Ltd.
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM C09B057-00
ICS C07D487-04; G03F007-004; C09D011-02
CC 41-8 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic
Sensitizers)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001081346	A2	20010327	JP 1999-240509	19990826
PRAI	JP 1999-240509		19990826		
CLASS					

2 CA references.
both to applicants
and both
have the
pyrrolo ring

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2001081346	ICM ICS	C09B057-00 C07D487-04; G03F007-004; C09D011-02

OS MARPAT 134:253732

AB The colorants are prepared which have good dispersibility in organic solvents and are useful for coloring plastics, inks, coatings, etc.

ST pyrrolo pyrrole coloring agent manuf; diketone pyrrolo pyrrole coloring agent

IT Dyes
Pigments, nonbiological
(substituted pyrrolo[2,3-c]pyrrole-1,4-diketone type compds. and **ring-opening** derivs. for colorants)

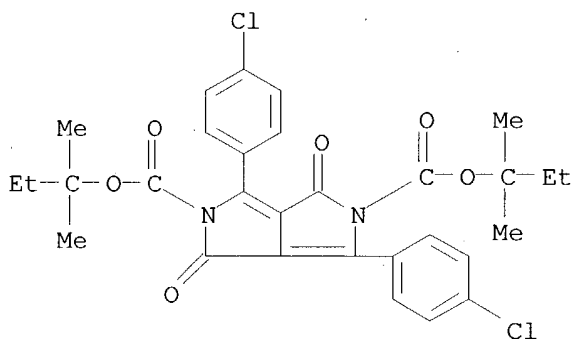
IT **209129-65-7**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(substituted pyrrolo[2,3-c]pyrrole-1,4-diketone type compds. and **ring-opening** derivs. for colorants)

IT **329186-30-3**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(substituted pyrrolo[2,3-c]pyrrole-1,4-diketone type compds. and **ring-opening** derivs. for colorants)

IT **209129-65-7**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(substituted pyrrolo[2,3-c]pyrrole-1,4-diketone type compds. and **ring-opening** derivs. for colorants)

RN 209129-65-7 HCAPLUS

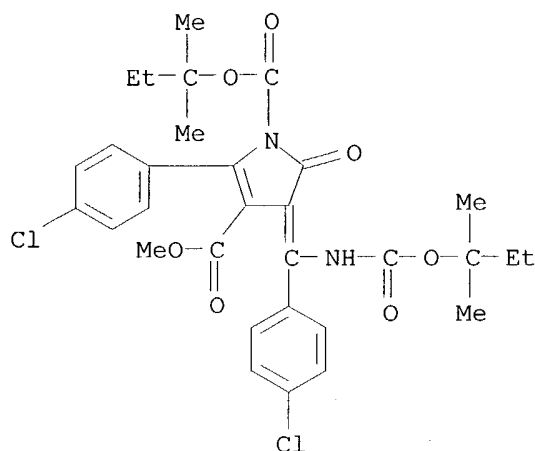
CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis(4-chlorophenyl)-1,4-dioxo-, bis(1,1-dimethylpropyl) ester (9CI) (CA INDEX NAME)



IT **329186-30-3**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(substituted pyrrolo[2,3-c]pyrrole-1,4-diketone type compds. and **ring-opening** derivs. for colorants)

RN 329186-30-3 HCAPLUS

CN 1H-Pyrrole-1,3-dicarboxylic acid, 2-(4-chlorophenyl)-4-[(4-chlorophenyl)[[(1,1-dimethylpropoxy)carbonyl]amino]methylene]-4,5-dihydro-5-oxo-, 1-(1,1-dimethylpropyl) 3-methyl ester (9CI) (CA INDEX NAME)



L13 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2001:180892 HCAPLUS
 DN 134:229773
 ED Entered STN: 16 Mar 2001
 TI Color filter for liquid crystal displays
 IN Yoshiwara, Toshio; Ito, Kiyoshi; Nakamura, Kazuhiko; Furukawa, Minoru
 PA Dai Nippon Printing Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 17 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM G02B005-20

ICS G02F001-1335

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001066410	A2	20010316	JP 1999-240390	19990826
	US 6656985	B1	20031202	US 2000-640175	20000817
	US 2004050294	A1	20040318	US 2003-642212	20030818
PRAI	JP 1999-240390	A	19990826		
	JP 1999-240508	A	19990826		
	JP 1999-240510	A	19990826		
	US 2000-640175	A3	20000817		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2001066410	ICM	G02B005-20
	ICS	G02F001-1335

OS MARPAT 134:229773

AB The invention relates to a LCD color filter, a color layer of which contains a sp. pyrrolo[3,4-c]pyrrole derivative therein formed on a translucent substrate to improve the spectral characteristics such as color purity, high transmittance, and high contrast.

ST color filter liq crystal display pyrrolo pyrrole deriv

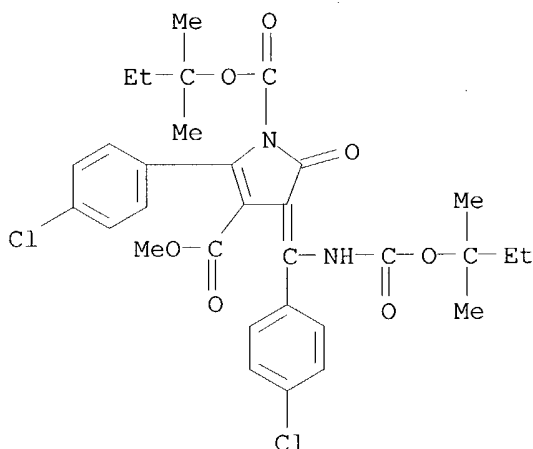
IT Liquid crystal displays

Optical filters

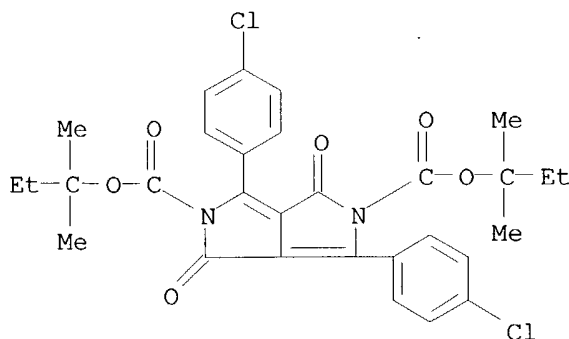
(pyrrolo[3,4-c]pyrrole derivative contained in LCD color filter)

IT 329186-30-3

RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
 (pyrrolo[3,4-c]pyrrole derivative contained in LCD color filter)
 IT **209129-65-7**, N,N'-Bis-tert-amylloxycarbonyl-1,4-diketo-3,6-di(4'-
 chlorophenyl)pyrrolo[3,4-c]pyrrole
 RL: TEM (Technical or engineered material use); USES (Uses)
 (pyrrolo[3,4-c]pyrrole derivative contained in LCD color filter)
 IT **329186-30-3**
 RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)
 (pyrrolo[3,4-c]pyrrole derivative contained in LCD color filter)
 RN 329186-30-3 HCAPLUS
 CN 1H-Pyrrole-1,3-dicarboxylic acid, 2-(4-chlorophenyl)-4-[(4-
 chlorophenyl)[[(1,1-dimethylpropoxy)carbonyl]amino]methylene]-4,5-dihydro-
 5-oxo-, 1-(1,1-dimethylpropyl) 3-methyl ester (9CI) (CA INDEX NAME)

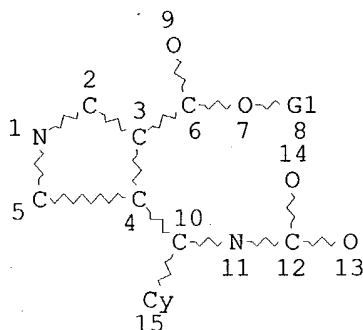


IT **209129-65-7**, N,N'-Bis-tert-amylloxycarbonyl-1,4-diketo-3,6-di(4'-
 chlorophenyl)pyrrolo[3,4-c]pyrrole
 RL: TEM (Technical or engineered material use); USES (Uses)
 (pyrrolo[3,4-c]pyrrole derivative contained in LCD color filter)
 RN 209129-65-7 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis(4-
 chlorophenyl)-1,4-dioxo-, bis(1,1-dimethylpropyl) ester (9CI) (CA INDEX
 NAME)



=> => D QUE

L5 611 SEA FILE=REGISTRY ABB=ON 180.31.4/RID
 L6 STR



VAR G1=AK/H
 NODE ATTRIBUTES:
 DEFAULT MLEVEL IS ATOM
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
 RING(S) ARE ISOLATED OR EMBEDDED
 NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

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 L9 2 SEA FILE=HCAPLUS ABB=ON L8
 L10 199 SEA FILE=HCAPLUS ABB=ON L5
 L11 2 SEA FILE=HCAPLUS ABB=ON L9 AND L10
 L12 1 SEA FILE=HCAPLUS ABB=ON L10 AND RING?(3A)OPEN?
 L13 2 SEA FILE=HCAPLUS ABB=ON L11 OR L12
 L14 15 SEA FILE=HCAPLUS ABB=ON L10 AND COLOR?(4A)FILTER?
 L15 17 SEA FILE=HCAPLUS ABB=ON L10 AND LIQ?(3A)?CRYSTAL?
 L16 25 SEA FILE=HCAPLUS ABB=ON L14 OR L15
 L17 24 SEA FILE=HCAPLUS ABB=ON L16 NOT L13

24 CA references from π - π^ and utility*

=> D L17 BIB ABS HITIND HITSTR 1-24

L17 ANSWER 1 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2004:243765 HCAPLUS
 DN 141:61954
 TI Photoacid-catalyzed pigmentation of dyestuff precursors enhanced by acid amplifiers in polymer films
 AU Ichimura, Kunihiro; Arimitsu, Koji; Tahara, Masaru
 CS Research Institute for Science and Technology, Science University of Tokyo, Noda, 278-8510, Japan
 SO Journal of Materials Chemistry (2004), 14(7), 1164-1172
 CODEN: JMACEP; ISSN: 0959-9428
 PB Royal Society of Chemistry
 DT Journal
 LA English
 AB The pigmentation of BOC-protected pigment precursors catalyzed by photogenerated acidic species in films of polystyrene (pSt) and poly(α -methylstyrene) according to the latent pigment technol. was investigated to reveal that the process consists of three steps: the deprotection to give free indigo mols., the subsequent diffusion of the

mols., and their aggregation to give the hydrogen-bonded pigment. The photoacid-catalyzed regeneration of indigo protected with tert-butoxycarbonyl (BOC) residues is comprised of two processes: a fast process at the early stage, followed by a very slow one. The former likely corresponds to the reaction within reactive spheres in polymer films, whereas the subsequent slow process displays a suppressive effect of polymer matrixes on the migration of the mols. from the reactive spheres so that the completion of the pigmentation requires prolonged heating. On the other hand, the addition of an acid amplifier, which decomps. autocatalytically to liberate new sulfonic acid mols., results in the marked enhancement of the deprotection and consequently the pigmentation. Particle size anal. of solns. dissolving pigmented films showed that smaller particles of indigo of about 20 nm in diameter are formed under heating below the glass transition temperature (T_g) of pSt whereas larger ones of a few hundred nm become predominant when films are heated above the T_g, reflecting both the fast and slow processes.

CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **Liquid crystal** displays

(photoacid-catalyzed pigmentation of dyestuff precursors enhanced by acid amplifiers in polymer films in relation to **color filters** of)

IT **167093-33-6P**

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(photoacid-catalyzed pigmentation of dyestuff precursors enhanced by acid amplifiers in polymer films)

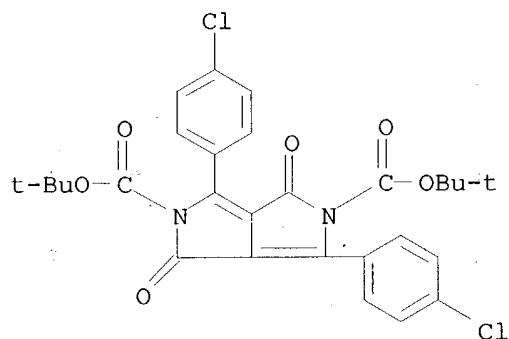
IT **167093-33-6P**

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(photoacid-catalyzed pigmentation of dyestuff precursors enhanced by acid amplifiers in polymer films)

RN 167093-33-6 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis(4-chlorophenyl)-1,4-dioxo-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 2 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2004:80790 HCAPLUS

DN 140:129773

TI Polymerizable diketopyrrolopyrroles, their use in **color**

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

filters and polymers prepared from these compounds

IN Adam, Jean-marie; De Keyzer, Gerardus
PA Ciba Specialty Chemicals Holding Inc., Switz.
SO PCT Int. Appl., 37 pp.

CODEN: PIXXD2

DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004009710	A1	20040129	WO 2003-EP7638	20030715
	<p>W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU</p> <p>RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG</p>				
PRAI	EP 2002-405640	A	20020722		
OS	MARPAT 140:129773				
AB	<p>The invention relates to the preparation and use of polymerizable diketopyrrolopyrroles in color filters. In contrast to conventional pigments, the polymerizable diketopyrrolopyrroles do not tend to aggregate and, hence, show very good dispersibility. Color filters prepared by using the polymerizable diketopyrrolopyrroles have high transparency and pure hue. In an example, the N atoms of a diketopyrrolopyrrole were treated with 6-chlorohexanol to give the bis(6-hydroxyhexyl) derivative, which was then converted to the red dimethacrylate ester.</p>				
IC	ICM C09B069-10				
	ICS C09B057-00; G03F007-00; C07D487-04; C07D209-00				
CC	41-5 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)				
	Section cross-reference(s): 27, 37, 73				
ST	polymerizable pyrrolopyrroledione dye methacrylate prodn color filter				
IT	Dyes				
	(polymerizable; production of polymerizable diketopyrrolopyrrole derivs. for color filters)				
IT	649559-82-0P				
	RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)				
	(intermediate; production of polymerizable diketopyrrolopyrrole derivs. for color filters)				
IT	649559-84-2P				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(production of polymerizable diketopyrrolopyrrole derivs. for color filters)				
IT	649559-85-3P				
	RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)				
	(red dye; production of polymerizable diketopyrrolopyrrole derivs. for color filters)				
IT	143-15-7, Dodecyl bromide		920-46-7, Methacryloyl chloride		2009-83-8,

6-Chlorohexanol 84632-52-0 649559-83-1

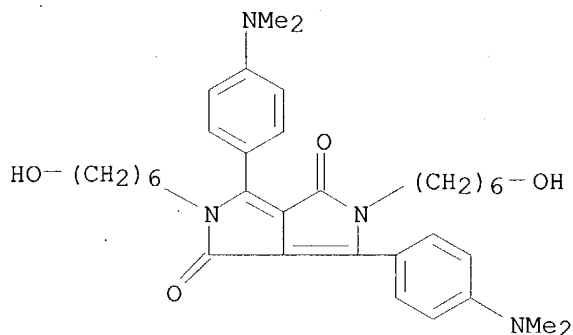
RL: RCT (Reactant); RACT (Reactant or reagent)
(starting material; production of polymerizable diketopyrrolopyrrole
derivs. for **color filters**)

IT **649559-82-0P**

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT
(Reactant or reagent)
(intermediate; production of polymerizable diketopyrrolopyrrole derivs. for
color filters)

RN 649559-82-0 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(dimethylamino)phenyl]-2,5-
dihydro-2,5-bis(6-hydroxyhexyl)- (9CI) (CA INDEX NAME)

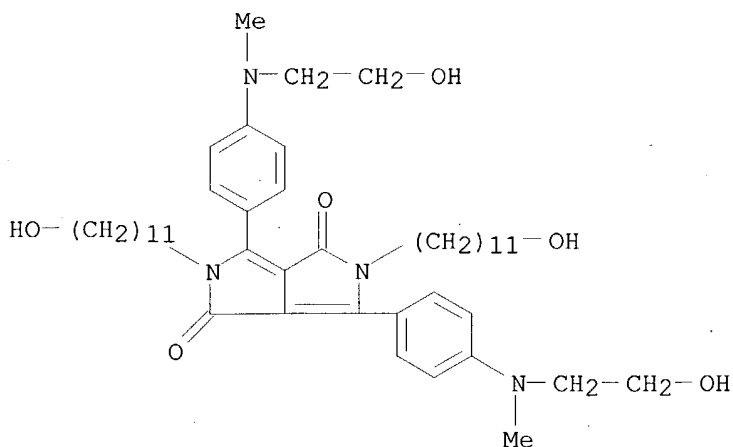


IT **649559-84-2P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(production of polymerizable diketopyrrolopyrrole derivs. for **color
filters**)

RN 649559-84-2 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-3,6-bis[4-[(2-
hydroxyethyl)methylamino]phenyl]-2,5-bis(11-hydroxyundecyl)- (9CI) (CA
INDEX NAME)



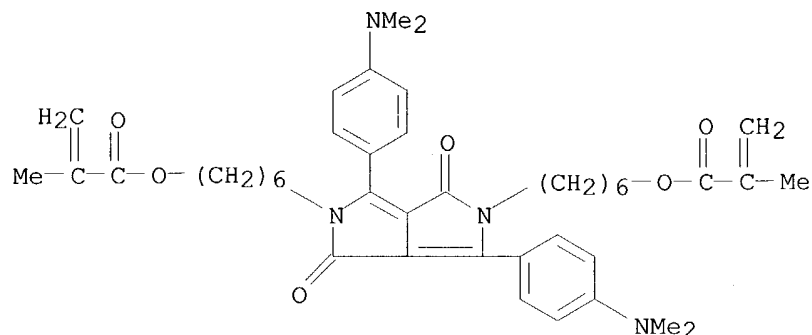
IT **649559-85-3P**

RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)
 (red dye; production of polymerizable diketopyrrolopyrrole derivs. for
color filters)

RN 649559-85-3 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, [3,6-bis[4-(dimethylamino)phenyl]-1,4-dioxopyrrolo[3,4-c]pyrrole-2,5(1H,4H)-diyl]di-6,1-hexanediyl ester (9CI)
 (CA INDEX NAME)



RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 3 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:919317 HCAPLUS

DN 140:152474

TI Rotational dynamics of nondipolar and dipolar solutes in an isotropic
liquid crystal: Comparison with an isotropic liquid

AU Dutt, G. B.

CS Radiation Chemistry and Chemical Dynamics Division, Bhabha Atomic Research
 Centre, Mumbai, 400 085, India

SO Journal of Chemical Physics (2003), 119(22), 11971-11976

CODEN: JCPSA6; ISSN: 0021-9606

PB American Institute of Physics

DT Journal

LA English

AB Rotational dynamics of a nondipolar solute, 2,5-dimethyl-1,4-dioxo-3,6-diphenylpyrrolo[3,4-c]pyrrole (DMDPP) and a dipolar solute, coumarin 6 (C6) was studied in the isotropic phase of a **liquid crystal**, 4'-methoxybenzylidene-4-n-butylaniline (MBBA) to understand the influence of pseudonematic domains on the dynamics of dopant mols. The reorientation times of both DMDPP and C6 follow the Stokes-Einstein-Debye hydrodynamic model instead of the Landau-de Gennes model, which was used to describe the rotational relaxation of neat isotropic **liquid crystals**. However, comparison of the data for both DMDPP and C6 in MBBA to that in an isotropic solvent, 1-decanol reveals that the probes are rotating considerably slower in the **liquid crystal**. Ordered local structures of the **liquid crystal** exert more friction on the rotating solute mol. compared to an isotropic liquid

CC 66-2 (Surface Chemistry and Colloids)

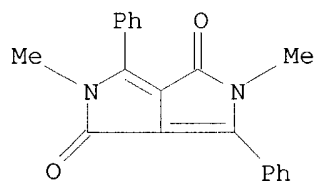
Section cross-reference(s): 75

ST rotational dynamics nondipolar dipolar solute isotropic **liq crystal**

IT Friction

(caused by MBBA **liquid crystal** on nondipolar and

- dipolar solutes in an isotropic **liquid crystal** solvent)
- IT Molecular dynamics
(relaxation, rotational; of nondipolar and dipolar solutes in isotropic **liquid crystal**: comparison with an isotropic liquid)
- IT **Liquid crystals**
Molecular rotation
Solute
(rotational dynamics of nondipolar and dipolar solutes in an isotropic **liquid crystal**: comparison with isotropic liq
.)
- IT 38215-36-0, Coumarin 6 **96159-17-0**, 2,5-Dimethyl-1,4-dioxo-3,6-diphenylpyrrolo[3,4-c]pyrrole
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(rotational dynamics of nondipolar and dipolar solutes in an isotropic **liquid crystal**: comparison with isotropic liq
.)
- IT 97402-82-9, MBBA
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(rotational dynamics of nondipolar and dipolar solutes in an isotropic **liquid crystal**: comparison with isotropic liq
.)
- IT **96159-17-0**, 2,5-Dimethyl-1,4-dioxo-3,6-diphenylpyrrolo[3,4-c]pyrrole
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(rotational dynamics of nondipolar and dipolar solutes in an isotropic **liquid crystal**: comparison with isotropic liq
.)
- RN 96159-17-0 HCAPLUS
- CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-diphenyl- (9CI) (CA INDEX NAME)

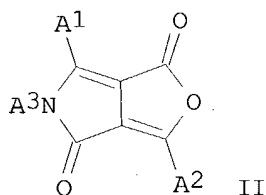
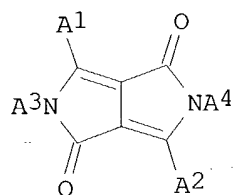


RE.CNT 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 4 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2003:221689 HCAPLUS
DN 138:255221
TI Process for the preparation of diketopyrrolopyrroles (DPPs) from fuopyrrolediones and primary amines.
IN Morton, Colin; Smith, David MacDonald; Ruffieux, Vincent
PA Ciba Specialty Chemicals Holding Inc., Switz.
SO PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DT Patent
LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003022848	A2	20030320	WO 2002-EP9792	20020903
	WO 2003022848	A3	20030918		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	EP 1425282	A2	20040609	EP 2002-779291	20020903
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK			
PRAI	EP 2001-810875	A	20010911		
	EP 2001-811249	A	20011220		
	EP 2002-405223	A	20020322		
	WO 2002-EP9792	W	20020903		
OS	MARPAT 138:255221				
GI					



AB Title compds. [I; A1, A2 = alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl, heteroaryl; A3 = H, alkyl, cyanomethyl, Ar3, CR3OR31(CH2)mAr3, YR32; R30, R31 = H, alkyl, (substituted) Ph; Ar3 = (substituted) aryl, cycloalkyl, cycloalkenyl, heteroaryl; Y = CO, CONH, SO2NH, SO2; R32 = alkyl, Ar3, aralkyl; A4 = alkyl, Ar3], were prepared by treatment of furopyrrrolediones (II; variables as above) with A4NH2 (A4 as above). Thus, II (A1, A2 = Ph; A3 = CH2Ph) was stirred with DCC, PhNH2, and CF3CO2H in CH2Cl2 at 40° to give 16% I (A1, A2, A4 = Ph; A3 = CH2Ph).

IC ICM C07D487-04

ICS C07D491-04; C09K011-06; C09B057-00

CC 28-2 (Heterocyclic Compounds (More Than One Hetero Atom))

Section cross-reference(s): 41, 62, 74

ST pyrrolopyrroledione prepn process; furopyrrroledione amine reaction; ink colorant color filter cosmetic toner

pyrrolopyrroledione prepn; dye laser electroluminescent device

pyrrolopyrroledione prepn; immunoassay fluorescent marker

pyrrolopyrroledione prepn; leak detector fluorescent tracer

pyrrolopyrroledione prepn

IT 502423-25-8P

RL: COS (Cosmetic use); IMF (Industrial manufacture); MOA (Modifier or additive use); SPN (Synthetic preparation); TEM (Technical or engineered

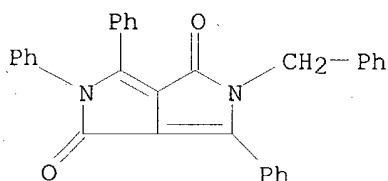
material use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(process for the preparation of diketopyrrolopyrroles (DPPs) from
furopyrrolediones and primary amines)

IT 502423-25-8P

RL: COS (Cosmetic use); IMF (Industrial manufacture); MOA (Modifier or
additive use); SPN (Synthetic preparation); TEM (Technical or engineered
material use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(process for the preparation of diketopyrrolopyrroles (DPPs) from
furopyrrolediones and primary amines)

RN 502423-25-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,3,6-triphenyl-5-
(phenylmethyl)- (9CI) (CA INDEX NAME)



L17 ANSWER 5 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 2002:666014 HCAPLUS

DN 138:39637

TI Synthesis and characterisation of thermomesogenic polysiloxanes with
2,5-dihydropyrrolo[3,4-c]pyrrole-1,4-dione units in the main chain

AU Horn, Matthias; Hepuzer, Yesim; Yagci, Yusuf; Bilgin-Eran, Belkiz;
Cernenco, Undina; Harabagiu, Valeria; Pinteala, Mariana; Simionescu,
Bogdan C.

CS Department of Chemistry and Biochemistry, University of California, Los
Angeles, CA, 90095-1569, USA

SO European Polymer Journal (2002), 38(11), 2197-2205

CODEN: EUPJAG; ISSN: 0014-3057

PB Elsevier Science Ltd.

DT Journal

LA English

AB The synthesis of the first two **liquid crystalline**
polysiloxanes bearing 3,6-diaryl-2,5-dihydropyrrolo-[3,4-c]pyrrole-1,4-
dione units in their main chain are described. Investigations on their
thermotropic phase behavior by polarizing microscopy reveal nematic or
smectic enantiotropic phases, resp.

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 75

IT **Liquid crystals**, polymeric

(synthesis of thermomesogenic polysiloxanes with
dihydropyrrolopyrroledione units in main chain)

IT 80-48-8P, p-Toluenesulfonic acid methyl ester 3277-26-7DP, reaction
products with polydimethylsiloxane 25037-57-4DP,

Octamethylcyclotetrasiloxane polymer, hydroxy-terminated 37062-63-8P

115254-29-0P 478415-48-4P 478415-49-5P 478415-50-8P 478415-51-9P

478415-52-0P 478415-54-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(synthesis of thermomesogenic polysiloxanes with
dihydropyrrolopyrroledione units in main chain)

IT **478415-55-3P**

RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of thermomesogenic polysiloxanes with
dihydropyrrolopyrroledione units in main chain)

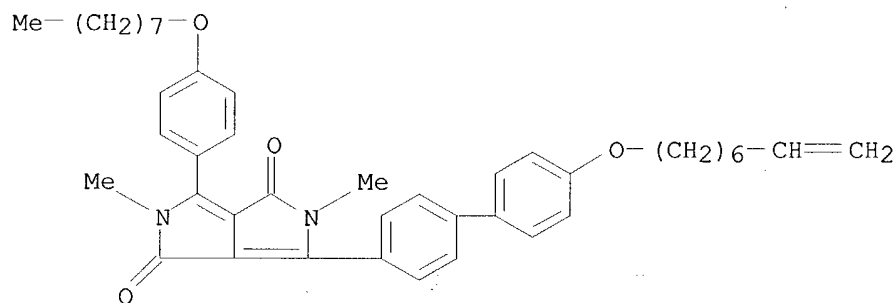
IT **478415-52-0P 478415-54-2P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
(Reactant or reagent)

(synthesis of thermomesogenic polysiloxanes with
dihydropyrrolopyrroledione units in main chain)

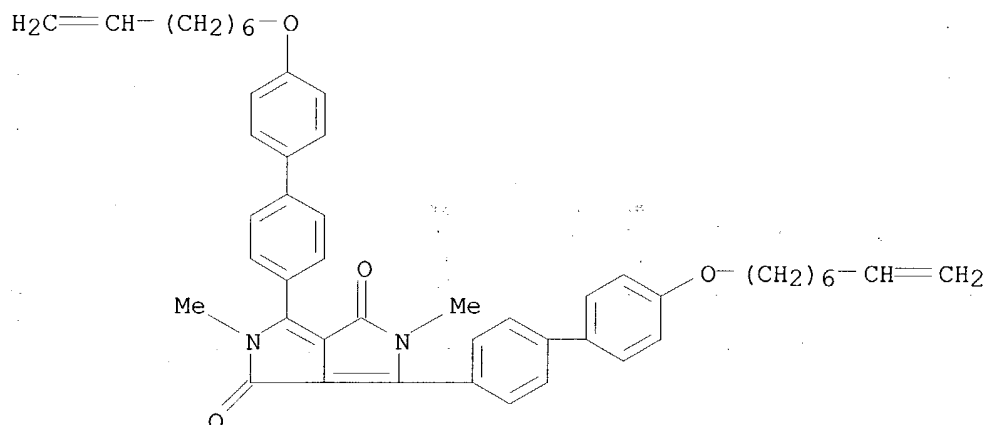
RN 478415-52-0 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3-[4'-(7-octenyloxy)[1,1'-biphenyl]-4-yl]-6-[4-(octyloxy)phenyl]- (9CI) (CA INDEX NAME)



RN 478415-54-2 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4'-(7-octenyloxy)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)



IT **478415-55-3P**

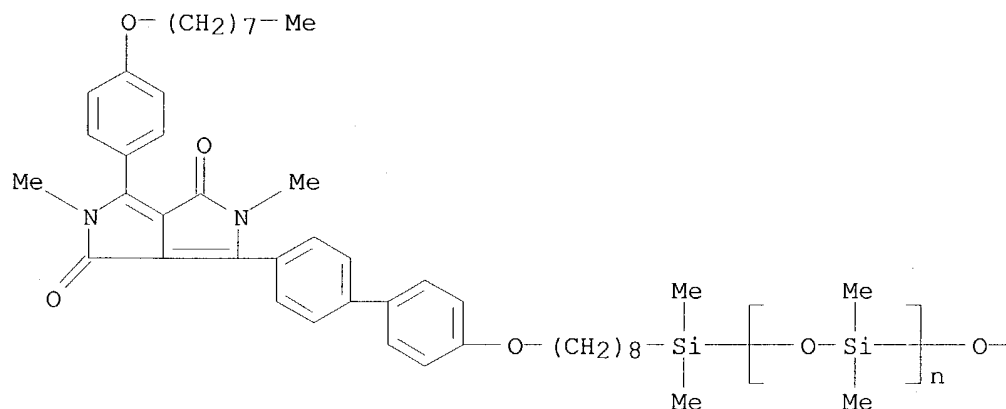
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of thermomesogenic polysiloxanes with
dihydropyrrolopyrroledione units in main chain)

RN 478415-55-3 HCAPLUS

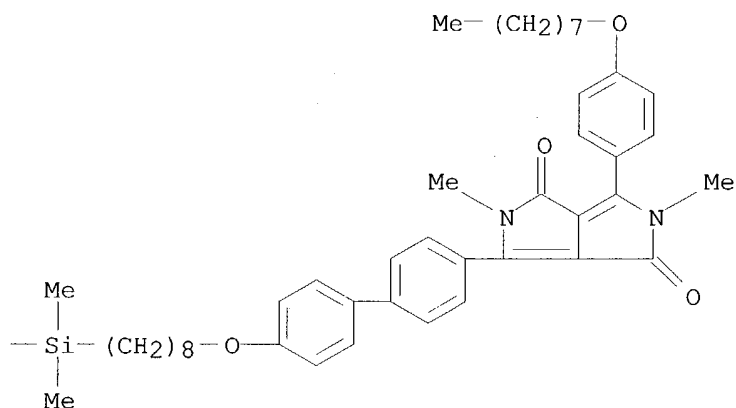
CN Poly[oxy(dimethylsilylene)], α -[dimethyl[8-[[4'-(2,3,5,6-tetrahydro-2,5-dimethyl-4-[4-(octyloxy)phenyl]-3,6-dioxopyrrolo[3,4-c]pyrrol-1-yl][1,1'-biphenyl]-4-yl]oxy]octyl)silyl]- ω -[[dimethyl[8-[[4'-(2,3,5,6-tetrahydro-2,5-dimethyl-4-[4-(octyloxy)phenyl]-3,6-dioxopyrrolo[3,4-c]pyrrol-1-yl][1,1'-biphenyl]-4-yl]oxy]octyl)silyl]oxy]-

(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

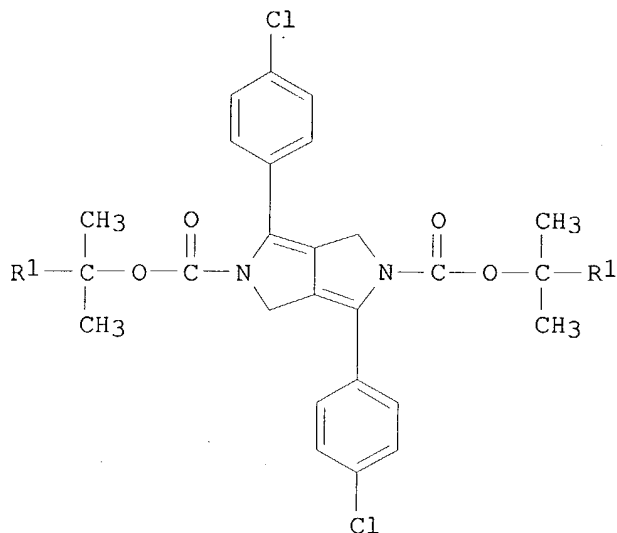


RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 6 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2002:176271 HCAPLUS
DN 136:239195
TI Radiation-sensitive compositions for **color filter** and
the **color filter**
IN Kimura, Ryoichi; Abe, Shigeru; Watanabe, Takeshi
PA JSR Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 2002072465 A2 20020312 JP 2000-257615 20000828
 PRAI JP 2000-257615 20000828
 OS MARPAT 136:239195
 GI



I

AB The compns. comprise (A) colorants containing organic latent pigments I (R1 = Cl-4 linear or branched alkyl, C7-12 aralkyl) and the other organic pigments, (B) alkali-soluble resins containing copolymers of (a) carboxy-containing unsatd.

monomers, (b) N-substituted maleimides, and (c) the other unsatd. comonomers, (C) polyfunctional monomers, (D) photopolymn. initiators, and (E) solvents,. Also claimed is a **color filter** for **color liquid crystal** displays, color sensors, etc., having red pixels formed from the compns. The compns. contain a large amount of pigments, show good developability, and provide red pixels having good adhesion to a substrate and heat resistance.

IC ICM G03F007-004

ICS C09B057-00; G02B005-20; G03F007-027; G03F007-033

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 73

ST **color filter** photoresist compn pyrrolopyrrole latent pigment; phenylmaleimide copolymer alkali sol resin photoresist **color filter**

IT Optical filters

Photoresists

(radiation-sensitive compns. for **color filters**

containing pyrrolopyrrole compds. as latent pigments)

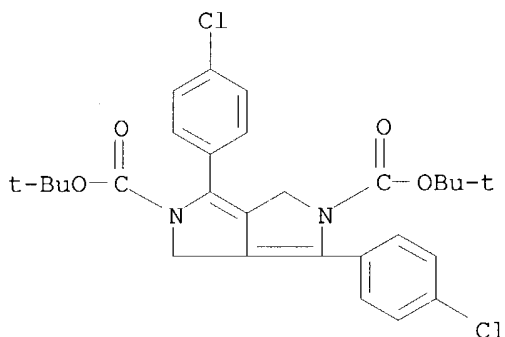
IT Resists

(radiation-sensitive; radiation-sensitive compns. for **color filters** containing pyrrolopyrrole compds. as latent pigments)

IT 763-69-9, Ethyl 3-ethoxypropionate 84632-65-5, C.I. Pigment Red 254 215383-54-3, Benzyl methacrylate-methacrylic acid-N-phenylmaleimide-styrene copolymer **403483-11-4**

RL: TEM (Technical or engineered material use); USES (Uses)
 (radiation-sensitive compns. for **color filters**

containing pyrrolopyrrole compds. as latent pigments)
 IT 41448-83-3, 3-Methoxypropyl acetate
 RL: TEM (Technical or engineered material use); USES (Uses)
 (solvent; radiation-sensitive compns. for **color filters** containing pyrrolopyrrole compds. as latent pigments)
 IT **403483-11-4**
 RL: TEM (Technical or engineered material use); USES (Uses)
 (radiation-sensitive compns. for **color filters** containing pyrrolopyrrole compds. as latent pigments)
 RN 403483-11-4 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis(4-chlorophenyl)-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



L17 ANSWER 7 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2001:554879 HCAPLUS
 DN 135:138794
 TI **Colored** coating compositions useful for **filters** for display devices and glass bottles
 IN Nakazumi, Hiroyuki; Ishii, Kazuhisa; Morita, Masanao
 PA Teikoku Hormone Mfg. Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 20 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001207115	A2	20010731	JP 2000-15146	20000125
	WO 2001055271	A1	20010802	WO 2001-JP423	20010123
	W: CN, ID, IN, KR, MX, ST, TR, US				
	RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
PRAI	JP 2000-15146	A	20000125		
OS	MARPAT 135:138794				
AB	Title compns. comprise metal alkoxides and/or their hydrolytic polycondensates and latent pigments. Thus, tetramethoxysilane 30.8, ethanol 62.6, nitric acid 0.1, and water 6.5 g were stirred at room temperature for 4 h to give 100 g silane alkoxide hydrolytic polycondensate, which was mixed with dioxazine type latent pigment 5, cyclohexanone 95, and isopropanol 300 g to give a coating composition. A glass plate was spin-coated with the composition and dried at 50° for 10 min and heated at 150° for 10 min to give a purple coating film.				
IC	ICM C09D183-00				

ICS C03C017-25; C09D005-00; C09D185-00; G02B005-20; G02F001-1335

CC 42-10 (Coatings, Inks, and Related Products)
Section cross-reference(s): 38, 74

ST **colored** coating compn display device **filter**; glass
bottle metal alkoxide colored coating; latent pigment metal alkoxide
coating compn

IT Optical imaging devices
(color; **colored** coating compns. useful for **filters**
for display devices and glass bottles)

IT Bottles
Ceramers
Optical **filters**
(**colored** coating compns. useful for **filters** for
display devices and glass bottles)

IT Aluminoxanes
Silsesquioxanes
Titanoxanes
Zirconoxanes
RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(**colored** coating compns. useful for **filters** for
display devices and glass bottles)

IT Glass, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**colored** coating compns. useful for **filters** for
display devices and glass bottles)

IT Coating materials
(colored, hot water-, alkali-resistant; **colored** coating
compns. useful for **filters** for display devices and glass
bottles)

IT Pigments, nonbiological
(latent; **colored** coating compns. useful for **filters**
for display devices and glass bottles)

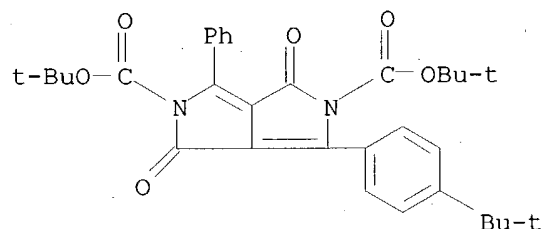
IT Silsesquioxanes
RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(silicate-; **colored** coating compns. useful for
filters for display devices and glass bottles)

IT Silicates, uses
RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(silsesquioxane-; **colored** coating compns. useful for
filters for display devices and glass bottles)

IT 12002-26-5P, Tetramethoxysilane homopolymer 39317-35-6P 51350-55-1P
53339-36-9P 55295-97-1P 89885-26-7P, Phenyltrimethoxysilane
homopolymer 104814-61-1P, γ -Glycidoxypropyltrimethoxysilane-
tetramethoxysilane copolymer 156327-78-5P, γ -
Methacryloxypropyltrimethoxysilane-tetramethoxysilane copolymer
156327-80-9P, Tetramethoxysilane-vinyltrimethoxysilane copolymer
159873-52-6P, Methyltrimethoxysilane-tetramethoxysilane copolymer
159970-29-3P, Phenyltrimethoxysilane-tetramethoxysilane copolymer
RL: IMF (Industrial manufacture); TEM (Technical or engineered material
use); PREP (Preparation); USES (Uses)
(**colored** coating compns. useful for **filters** for
display devices and glass bottles)

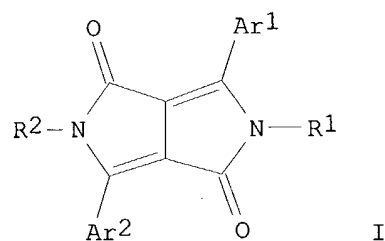
IT 211321-85-6 **214289-82-4** 214289-84-6 262355-86-2
301847-56-3 351450-02-7
RL: TEM (Technical or engineered material use); USES (Uses)
(latent pigment; **colored** coating compns. useful for

filters for display devices and glass bottles)
 IT **214289-82-4**
 RL: TEM (Technical or engineered material use); USES (Uses)
 (latent pigment; **colored** coating compns. useful for
filters for display devices and glass bottles)
 RN 214289-82-4 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3-[4-(1,1-dimethylethyl)phenyl]-1,4-dioxo-6-phenyl-, bis(1,1-dimethylethyl) ester
 (9CI) (CA INDEX NAME)



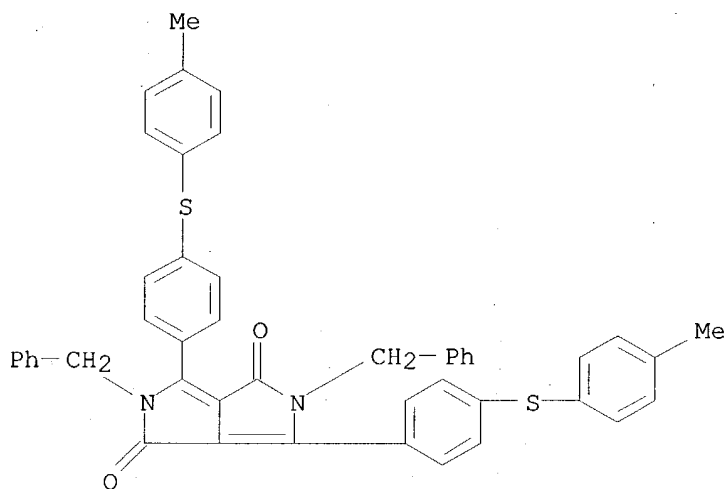
L17 ANSWER 8 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2001:228313 HCAPLUS
 DN 134:273272
 TI Fluorescent diketopyrrolopyrroles
 IN Moretti, Robert; Hao, Zhimin; Yamamoto, Hiroshi
 PA Ciba Specialty Chemicals Holding Inc., Switz.
 SO Eur. Pat. Appl., 28 pp.
 CODEN: EPXXDW
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1087005	A1	20010328	EP 2000-810847	20000919
	EP 1087005	B1	20040225		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6603020	B1	20030805	US 2000-735080	20000907
	JP 2001097975	A2	20010410	JP 2000-288313	20000922
	US 2003187106	A1	20031002	US 2003-354602	20030130
PRAI	EP 1999-810867	A	19990927		
	US 2000-735080	A3	20000907		
OS	MARPAT 134:273272				
GI					

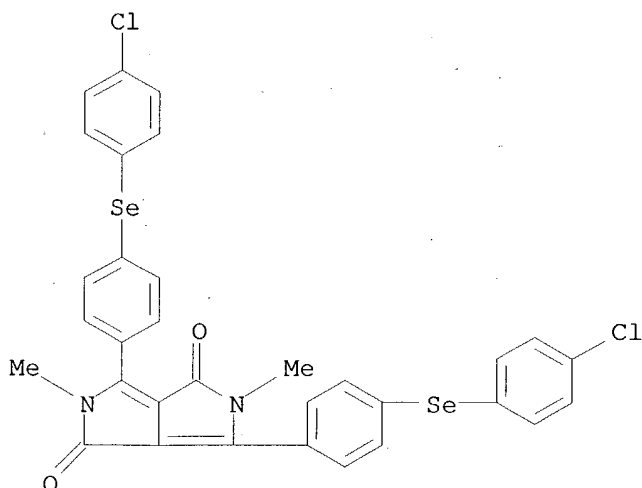


- AB Fluorescent diketopyrrolopyrrole derivs. are described by the general formula I (Ar1, Ar2 = independently selected (un)substituted cyclic groups; R1, R2 = independently selected (un)substituted alkyl or allyl groups). Methods for preparing the derivs. are described which entail treating a precursor diketopyrrolopyrrole derivative are also described. A method of coloring high mol. weight organic materials (e.g., a polyamide, a polystyrene, preferably high impact polystyrene, polymethylmethacrylate or an ABS copolymer) by incorporating the derivs., as well as colored compns. incorporating the derivs. along with high mol. weight organic materials are also described. The use of the diketopyrrolopyrrole derivs. for the preparation of inks, colorants, pigmented plastics for coatings, non-impact-printing material, **color filters**, cosmetics, or for the preparation of polymeric ink particles, toners, dye lasers, and electroluminescent devices is also described.
- IC ICM C09K011-06
ICS C08K005-3415; C07D487-04; C09B057-00
- CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 42, 62
- ST fluorescent diketopyrrolopyrrole deriv; pigment fluorescent diketopyrrolopyrrole deriv; toner fluorescent diketopyrrolopyrrole deriv; electroluminescent device fluorescent diketopyrrolopyrrole deriv; dye laser fluorescent diketopyrrolopyrrole deriv; cosmetic pigment fluorescent diketopyrrolopyrrole deriv; **color filter** fluorescent diketopyrrolopyrrole deriv; ink fluorescent diketopyrrolopyrrole deriv; coating pigment fluorescent diketopyrrolopyrrole deriv
- IT **331678-11-6P 331678-13-8P**
RL: DEV (Device component use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)
(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)
- IT 84632-52-0DP, reaction products with alkylating agents
205104-13-8P 331678-08-1P 331678-18-3P
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); PREP (Preparation); USES (Uses)
(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)
- IT **331678-16-1P**
RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)
- IT **331678-14-9P**
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)
- IT **331678-12-7P**
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)
- IT **331678-09-2P**
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)
- IT 4181-05-9P, 4-Diphenylaminobenzaldehyde 14593-46-5P 20441-00-3P,
4-Diphenylaminobenzonitrile 41424-11-7P 84632-55-3P
96159-14-7P 219915-65-8P 331678-07-0P 331678-10-5P
331678-17-2P 331678-19-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)
 IT **331678-11-6P 331678-13-8P**
 RL: DEV (Device component use); IMF (Industrial manufacture); PREP
 (Preparation); USES (Uses)
 (fluorescent diketopyrrolopyrrole derivs. and their preparation and use)
 RN 331678-11-6 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-3,6-bis[4-[(4-methylphenyl)thio]phenyl]-2,5-bis(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 331678-13-8 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4'-[(4-chlorophenyl)seleno]phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)

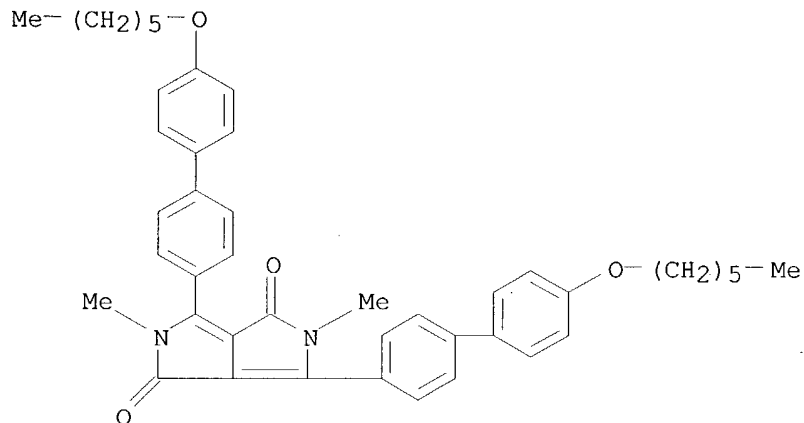


IT **205104-13-8P 331678-08-1P 331678-18-3P**
 RL: DEV (Device component use); IMF (Industrial manufacture); PRP
 (Properties); PREP (Preparation); USES (Uses)

(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)

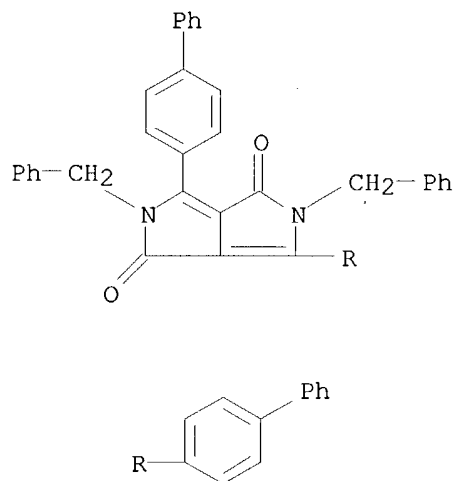
RN 205104-13-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4'-(hexyloxy)[1,1'-biphenyl]-4-yl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



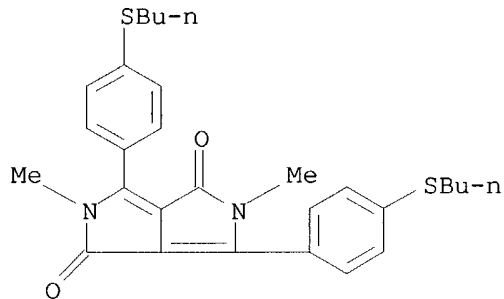
RN 331678-08-1 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis([1,1'-biphenyl]-4-yl)-2,5-dihydro-2,5-bis(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 331678-18-3 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(butylthio)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)

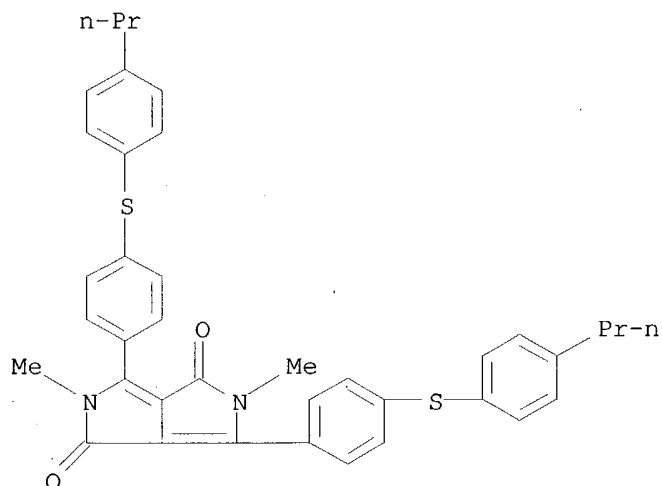


IT **331678-16-1P**

RL: DEV (Device component use); IMF (Industrial manufacture); PRP (Properties); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)

RN 331678-16-1 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-[(4-propylphenyl)thio]phenyl]- (9CI) (CA INDEX NAME)

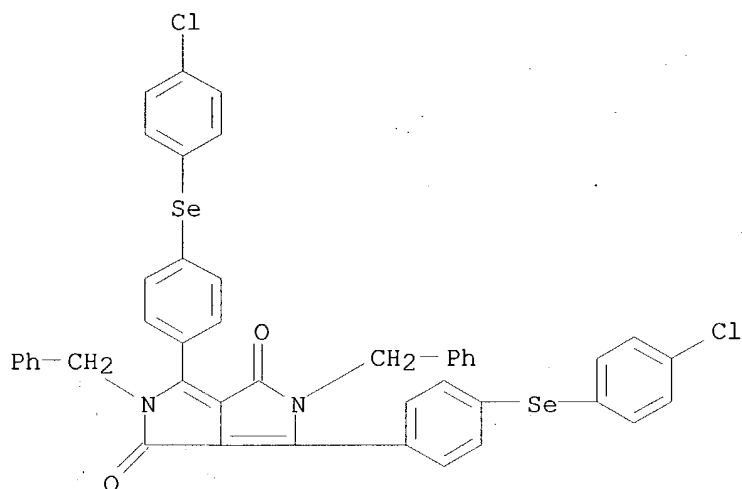


IT **331678-14-9P**

RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)

RN 331678-14-9 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-[(4-chlorophenyl)seleno]phenyl]-2,5-dihydro-2,5-bis(phenylmethyl)- (9CI) (CA INDEX NAME)

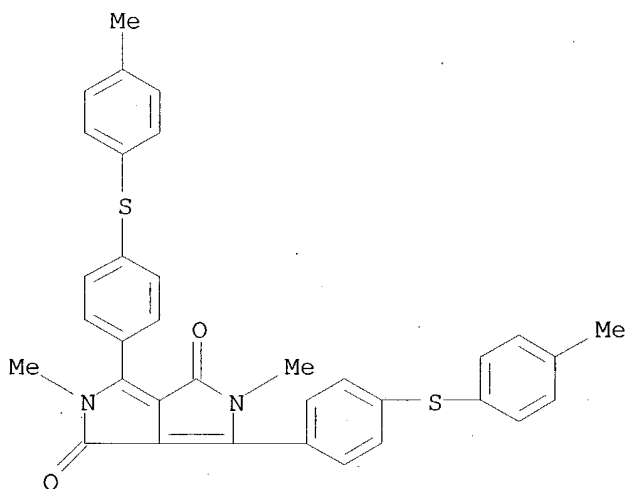


IT 331678-12-7P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)

RN 331678-12-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(4-methylphenyl)thio]phenyl]- (9CI) (CA INDEX NAME)

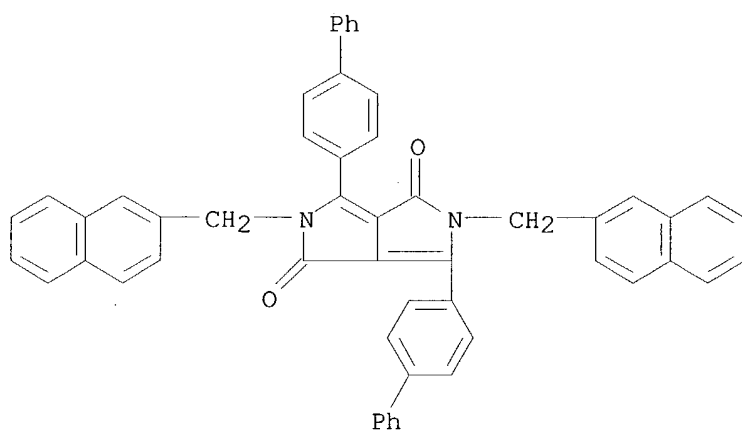


IT 331678-09-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)

RN 331678-09-2 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis([1,1'-biphenyl]-4-yl)-2,5-dihydro-2,5-bis(2-naphthalenylmethyl)- (9CI) (CA INDEX NAME)

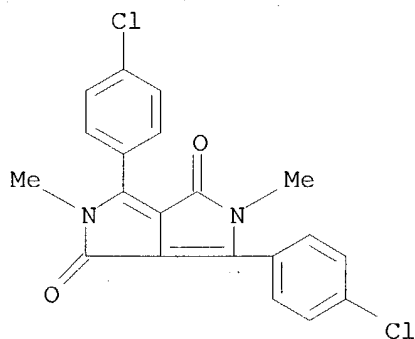


IT 96159-14-7P 331678-10-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(fluorescent diketopyrrolopyrrole derivs. and their preparation and use)

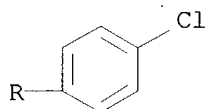
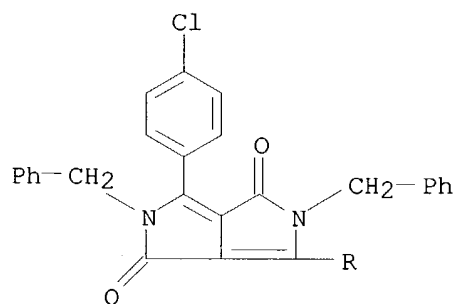
RN 96159-14-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis(4-chlorophenyl)-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



RN 331678-10-5 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis(4-chlorophenyl)-2,5-dihydro-2,5-bis(phenylmethyl)- (9CI) (CA INDEX NAME)



RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

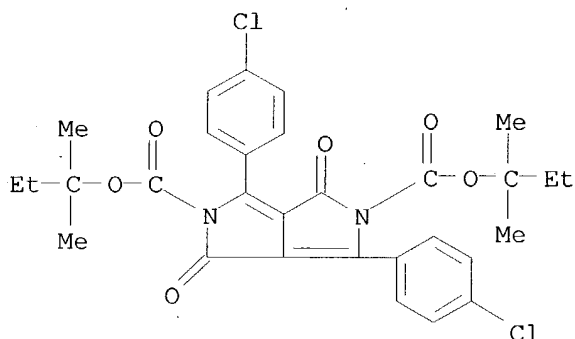
L17 ANSWER 9 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 2001:217380 HCAPLUS
DN 134:253731
TI Method for manufacture of coloring materials having good dispersion stability
IN Iqbal, Abul; Hao, Zhimin; Yoshihara, Toshio; Ito, Kiyoshi; Nakamura, Kazuhiko; Furukawa, Minoru
PA Ciba Specialty Chemicals Holding, Inc., Switz.; Dai Nippon Printing Co., Ltd.
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001081350	A2	20010327	JP 1999-240508	19990826
	US 6656985	B1	20031202	US 2000-640175	20000817
	US 2004050294	A1	20040318	US 2003-642212	20030818
PRAI	JP 1999-240390	A	19990826		
	JP 1999-240508	A	19990826		
	JP 1999-240510	A	19990826		
	US 2000-640175	A3	20000817		

AB **Colorants** useful for **color filters** are manufactured by converting soluble pigment precursors in the presence of dispersants in solvents to give stable dispersions of insol. pigments. Thus, N,N'-bis-tert-amyloxycarbonyl-1,4-diketo-3,6-di(4-chlorophenyl)pyrrolo-[3,4-c]pyrrole was treated with 10% HCl MeOH solution in the presence of Disperbyk 164 (urethane prepolymer dispersant) in methoxypropyl acetate to give a yellow dispersion, which was purified, mixed with PHM-C [poly(vinyl phenol)], and applied on glass to give coatings showing light transmittance ≤ 10 and $\geq 87\%$ at ≤ 570 and ≥ 620 nm, resp.

IC ICM C09B067-10
ICS C09B055-00; C09B057-00; C09B067-20; C09B067-46; G02B005-20; G02B005-22; B41M005-00

- CC 41-8 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 74
- ST pigment pyrrolopyrrole dispersion stability **color filter**
; polyurethane dispersant pyrrolopyrrole pigment **color filter**
- IT Polyurethanes, uses
RL: MOA (Modifier or additive use); USES (Uses)
(dispersants; manufacture of colorants having good dispersion stability for **color filters**)
- IT Coating materials
Dispersing agents
Optical **filters**
Pigments, nonbiological
(manufacture of **colorants** having good dispersion stability for **color filters**)
- IT 185766-22-7, Disperbyk 164
RL: MOA (Modifier or additive use); USES (Uses)
(dispersants; manufacture of colorants having good dispersion stability for **color filters**)
- IT **209129-65-7DP**, hydrolyzed
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of colorants having good dispersion stability for **color filters**)
- IT **209129-65-7DP**, hydrolyzed
RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(manufacture of colorants having good dispersion stability for **color filters**)
- RN 209129-65-7 HCAPLUS
- CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis(4-chlorophenyl)-1,4-dioxo-, bis(1,1-dimethylpropyl) ester (9CI) (CA INDEX NAME)



- L17 ANSWER 10 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
- AN 2001:180893 HCAPLUS
- DN 134:229774
- TI **Color filter for liquid crystal displays**
- IN Yoshiwara, Toshio; Ito, Kiyoshi; Nakamura, Kazuhiko; Furukawa, Minoru
- PA Dai Nippon Printing Co., Ltd., Japan
- SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001066411	A2	20010316	JP 1999-240510	19990826
	US 6656985	B1	20031202	US 2000-640175	20000817
	US 2004050294	A1	20040318	US 2003-642212	20030818
PRAI	JP 1999-240390	A	19990826		
	JP 1999-240508	A	19990826		
	JP 1999-240510	A	19990826		
	US 2000-640175	A3	20000817		

AB The **color filter** comprises a **color** layer as a color pixel formed on a translucent substrate, wherein the color layer contains (1) a soluble dye precursor which is converted to a insol. dye, (2) a solvent capable of dissolving the soluble dye precursor, and (3) an organic dispersion stabilizer which stabilizes the insol. dye in the dispersion. The organic dispersion stabilizer has an amine value larger than the acid value, and contains a group selected from CO, NH₂, NH, N, CONH₂, COMH, NHCOO, NCOO, NHCONH, (NHCO)₂N, OH.. The use of the organic dispersion stabilizer provided the color layer having a high concentration and surface smoothness.

IC ICM G02B005-20

ICS G02F001-1335; G03F007-004

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 13

ST **color filter liq crystal** display

org dispersion stabilizer

IT Stabilizing agents

(dispersion; org dispersion stabilizer contained in LCD **color filter**)IT **Liquid crystal** displays

Optical filters

(org dispersion stabilizer contained in LCD **color filter**)IT 185766-22-7, Disperbyk-164 **209129-65-7**

RL: TEM (Technical or engineered material use); USES (Uses)

(org dispersion stabilizer contained in LCD **color filter**)

IT 84540-57-8, Methoxypropylacetate

RL: NUU (Other use, unclassified); USES (Uses)

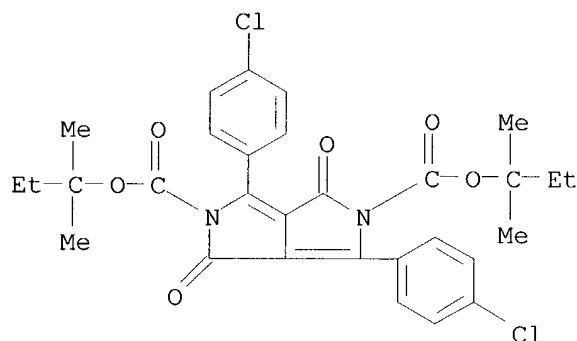
(solvent; org dispersion stabilizer contained in LCD **color filter**)IT **209129-65-7**

RL: TEM (Technical or engineered material use); USES (Uses)

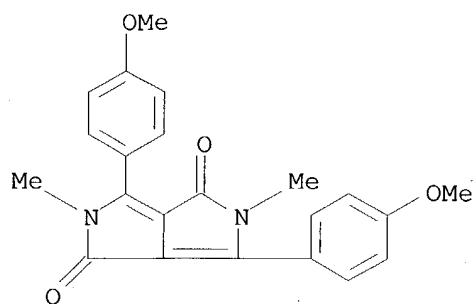
(org dispersion stabilizer contained in LCD **color filter**)

RN 209129-65-7 HCAPLUS

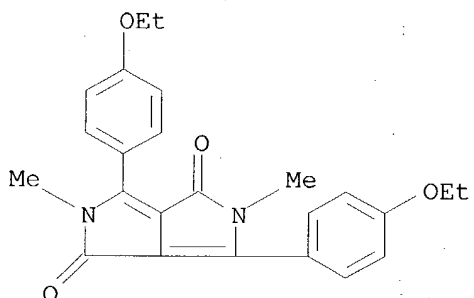
CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis(4-chlorophenyl)-1,4-dioxo-, bis(1,1-dimethylpropyl) ester (9CI) (CA INDEX NAME)



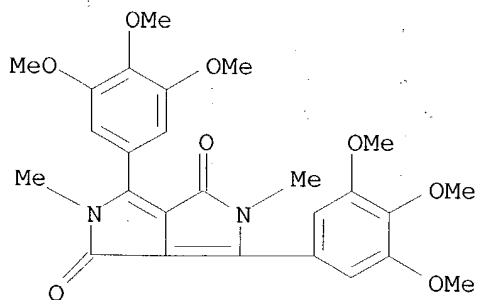
L17 ANSWER 11 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2000:709557 HCAPLUS
 DN 133:368048
 TI Prediction of columnar mesophases for dipyrrole and crown derivatives
 AU Akopova, O. B.; Akopov, D. A.; Usol'tseva, N. V.
 CS Ivanovskii Gos. Univ., Ivanovo, Russia
 SO Zhurnal Fizicheskoi Khimii (2000), 74(7), 1253-1257
 CODEN: ZFKHA9; ISSN: 0044-4537
 PB MAIK Nauka
 DT Journal
 LA Russian
 AB Mol. parameters of new series of mol. structures (dipyrrole and crown
 derivs.) were calculated For 27 hypothetical structures the values of mol.
 parameters predict columnar mesophases. For example on dipyrroles it is
 shown that it is possible according to the mol. parameters to distinguish
 structures with classical type mesophases (nematic, smectic **liquid**
crystals) from structures with columnar phases.
 CC 75-11 (Crystallography and Liquid Crystals)
 Section cross-reference(s): 28
 ST columnar **liq crystal** dipyrrole crown deriv prediction
 IT **Liquid crystals**
 (columnar; prediction for dipyrrole and crown derivs. from mol.
 parameters)
 IT 307303-24-8 307303-25-9 307303-26-0
 307303-27-1 307303-28-2 307303-29-3
 307303-30-6 307303-31-7 307303-32-8
 307303-33-9 307303-34-0 307303-35-1 307303-36-2
 307303-37-3 307303-38-4 307303-39-5 307303-40-8 307303-41-9
 307303-42-0 307303-43-1 307303-44-2 307303-45-3 307303-47-5
 307303-48-6 307303-49-7 307303-50-0 307303-51-1
 RL: PRP (Properties)
 (mol. parameters in prediction of columnar mesophase for)
 IT 307303-24-8 307303-25-9 307303-26-0
 307303-27-1 307303-28-2 307303-29-3
 307303-30-6 307303-31-7 307303-32-8
 307303-33-9 307303-34-0
 RL: PRP (Properties)
 (mol. parameters in prediction of columnar mesophase for)
 RN 307303-24-8 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-3,6-bis(4-methoxyphenyl)-2,5-
 dimethyl- (9CI) (CA INDEX NAME)



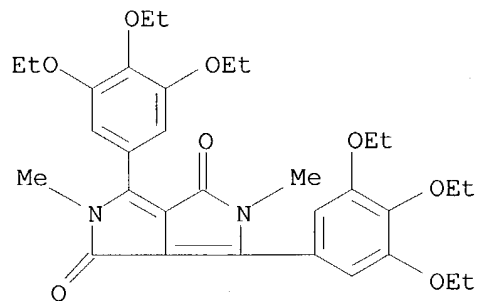
RN 307303-25-9 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis(4-ethoxyphenyl)-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



RN 307303-26-0 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis(3,4,5-trimethoxyphenyl)- (9CI) (CA INDEX NAME)



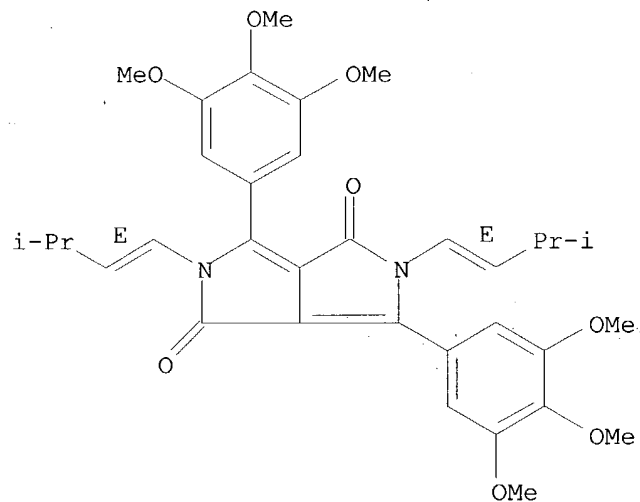
RN 307303-27-1 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis(3,4,5-triethoxyphenyl)- (9CI) (CA INDEX NAME)



RN 307303-28-2 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-bis[(1E)-3-methyl-1-butenyl]-3,6-bis(3,4,5-trimethoxyphenyl)- (9CI) (CA INDEX NAME)

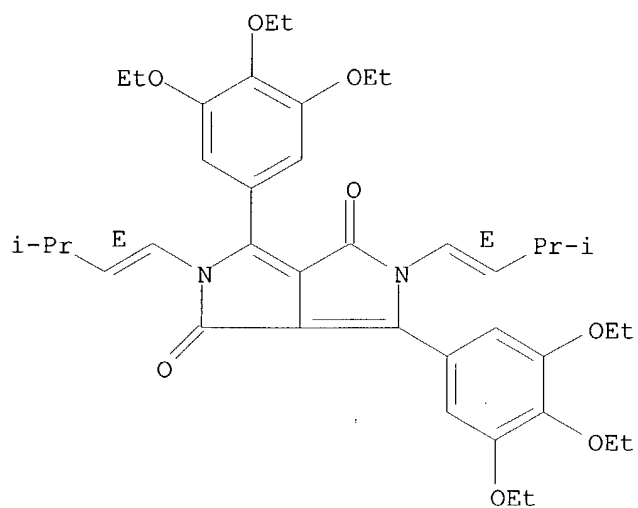
Double bond geometry as shown.



RN 307303-29-3 HCAPLUS

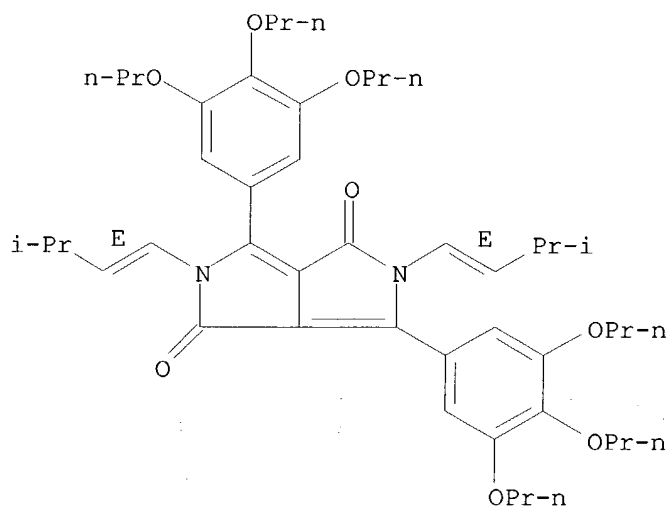
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-bis[(1E)-3-methyl-1-butenyl]-3,6-bis(3,4,5-triethoxyphenyl)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

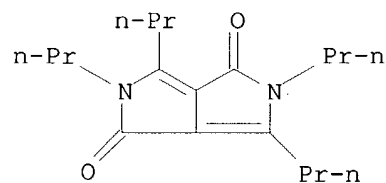


RN 307303-30-6 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-bis[(1E)-3-methyl-1-butenyl]-3,6-bis(3,4,5-tripropoxyphenyl)- (9CI) (CA INDEX NAME)

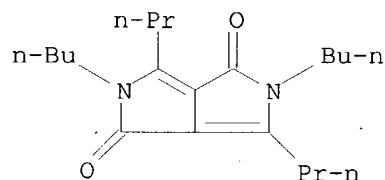
Double bond geometry as shown.



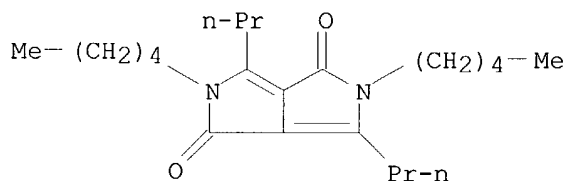
RN 307303-31-7 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,3,5,6-tetrapropyl- (9CI)
 (CA INDEX NAME)



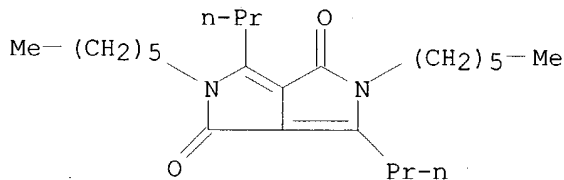
RN 307303-32-8 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dibutyl-2,5-dihydro-3,6-dipropyl-
 (9CI) (CA INDEX NAME)



RN 307303-33-9 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dipentyl-3,6-dipropyl-
 (9CI) (CA INDEX NAME)



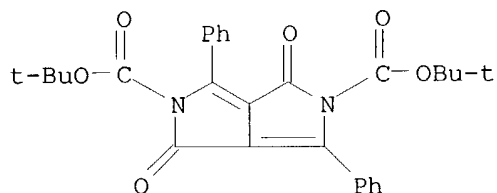
RN 307303-34-0 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihexyl-2,5-dihydro-3,6-dipropyl-
 (9CI) (CA INDEX NAME)



L17 ANSWER 12 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 2000:67602 HCAPLUS
 DN 132:130078
 TI Ink for manufacturing optical filter used for formation of **liquid crystal** display pixel by ink-jet printing
 IN Kubota, Yasuo; Watanabe, Takuo; Eguchi, Masuichi

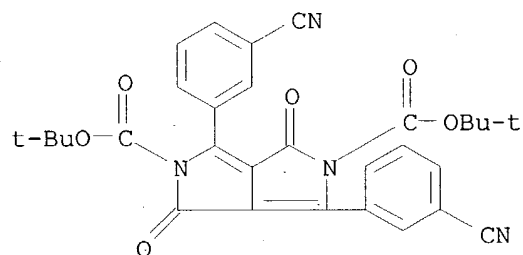
PA Toray Industries, Inc., Japan
 SO Jpn. Kokai Tokkyo Koho, 16 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2000028820	A2	20000128	JP 1998-193276	19980708
PRAI	JP 1998-193276		19980708		
AB	The ink for manufacturing an optical filter of the formation of a liquid crystal display pixel by ink-jet printing has a solvent such as cyclopentanone and a soluble pigment precursor. The ink show the improved ink-emitting characteristics.				
IC	ICM G02B005-20 ICS B41J002-01; C09D011-00				
CC	74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes) Section cross-reference(s): 42				
ST	jet printing ink optical filter manuf liq crystal display; pixel formation liq crystal display jet printing ink				
IT	Liquid crystal displays Optical filters (Ink for manufacturing optical filter used for formation of liquid crystal display pixel by ink-jet printing)				
IT	Aminoplasts RL: MSC (Miscellaneous) (Ink for manufacturing optical filter used for formation of liquid crystal display pixel by ink-jet printing)				
IT	Inks (jet-printing; Ink for manufacturing optical filter used for formation of liquid crystal display pixel by ink-jet printing)				
IT	107-21-1, Ethyleneglycol, miscellaneous 120-92-3, Cyclopentanone 7732-18-5, Water, miscellaneous 9003-08-1, Sumitex M 3 120478-30-0, Joncryn J 52 RL: MSC (Miscellaneous) (Ink for manufacturing optical filter used for formation of liquid crystal display pixel by ink-jet printing)				
IT	167093-32-5 184234-11-5 256338-81-5 RL: TEM (Technical or engineered material use); USES (Uses) (Ink for manufacturing optical filter used for formation of liquid crystal display pixel by ink-jet printing)				
IT	167093-32-5 256338-81-5 RL: TEM (Technical or engineered material use); USES (Uses) (Ink for manufacturing optical filter used for formation of liquid crystal display pixel by ink-jet printing)				
RN	167093-32-5 HCAPLUS				
CN	Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 1,4-dioxo-3,6-diphenyl-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)				



RN 256338-81-5 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis(3-cyanophenyl)-1,4-dioxo-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



L17 ANSWER 13 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:707921 HCAPLUS

DN 131:329956

TI Paste for red-color filter, manufacture of the filter, and liquid crystal display device

IN Kubota, Yasuo; Watanabe, Takuo; Eguchi, Yoshiichi

PA Toray Industries, Inc., Japan

SO Jpn. Kokai Tokkyo Koho, 14 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11305032	A2	19991105	JP 1998-108994	19980420
PRAI	JP 1998-108994		19980420		
OS	MARPAT 131:329956				
GI					

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The paste comprises a resin, a solvent, and a coloring agent containing two kinds of soluble pigment precursors having structures I and II. The filter comprises the agent and a resin. The filter is manufactured by using the paste. The device contains the filter. A red-color filter with high contrast, transmittance, and color concentration is manufactured by the method.

IC ICM G02B005-22

ICS G02B005-20; G03F007-004

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST red **color filter** pigment precursor; **liq**
crystal display red **color filter**

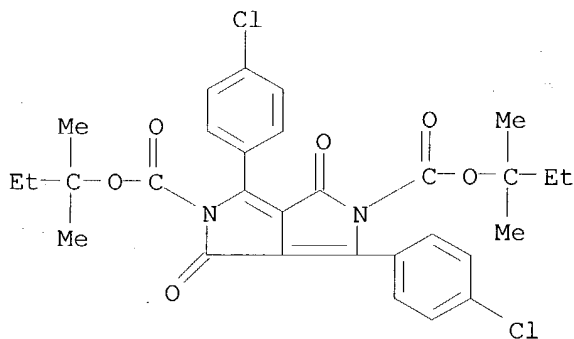
IT **Liquid crystal** displays
Optical **filters**
(red-**color filter** containing pigment precursors for
liquid crystal display device)

IT 209129-65-7 248604-10-6
RL: DEV (Device component use); MOA (Modifier or additive use); USES:
(Uses)
(red-**color filter** containing pigment precursors for
liquid crystal display device)

IT 209129-65-7 248604-10-6
RL: DEV (Device component use); MOA (Modifier or additive use); USES:
(Uses)
(red-**color filter** containing pigment precursors for
liquid crystal display device)

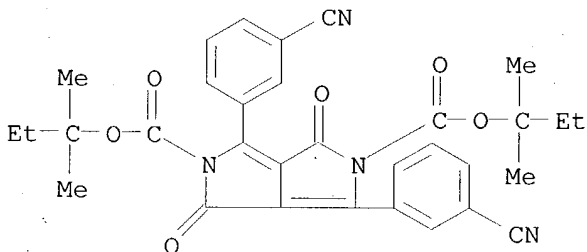
RN 209129-65-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis(4-chlorophenyl)-1,4-dioxo-, bis(1,1-dimethylpropyl) ester (9CI) (CA INDEX NAME)



RN 248604-10-6 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis(3-cyanophenyl)-1,4-dioxo-, bis(1,1-dimethylpropyl) ester (9CI) (CA INDEX NAME)



L17 ANSWER 14 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1999:670142 HCAPLUS

DN 131:305218

TI Diketopyrrolopyrrole **liquid crystals** for display

devices

IN Hao, Zhimin; Iqbal, Abul; Tebaldi, Nancy; Praefcke, Klaus

PA Ciba Specialty Chemicals Corp., USA

SO U.S., 20 pp.

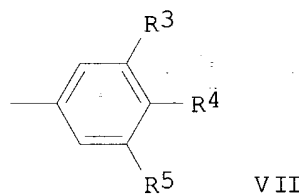
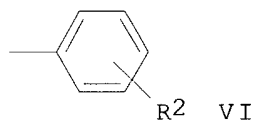
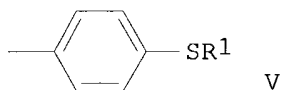
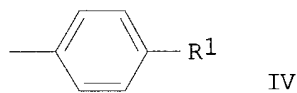
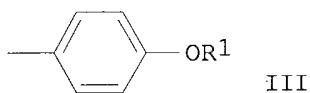
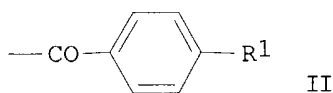
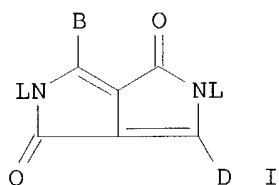
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5969154	A	19991019	US 1997-988419	19971210
PRAI	CH 1996-3026	A	19961210		
	CH 1996-3027	A	19961210		
OS	MARPAT 131:305218				
GI					



AB Diketopyrrolopyrrole **liquid crystals** for display devices are represented by the general formula I (L = Me, C10-18 alkyl, or II-V; B, D = C6-24 alkyl, VI, or VII; R1 = C4-18 alkyl with the proviso that when L is Me, at least one of B and D is C6-24 alkyl; R2 is hydrogen, C1-4 alkyl, C1-4 alkoxy, halogen, cyano, or nitro; R3-5 = hydrogen, OR6, SR6, SeR6, NHR6, NR6R7, or aryl with the proviso that at least one of R3-5 is not hydrogen; R6 = C7-37 alkyl, C7-37 alkylene, or C5-18 alkyl which is interrupted by 1-6 hetero atoms selected from the group consisting of O, S, and N; R7 = hydrogen, C1-12 alkyl, C2-12 alkylene, or C3-12 alkyl which is interrupted by 1-6 hetero atoms selected from the group consisting of O, S, and N).

IC ICM C07D487-04

ICS C07D317-12; C07D319-06
 NCL 548453000
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 Section cross-reference(s): 75
 ST diketopyrrolopyrrole **liq crystal** electrooptical display device
 IT **Liquid crystal** displays
 (diketopyrrolopyrrole **liquid crystals** for)
 IT **Liquid crystals**
 (diketopyrrolopyrroles as)
 IT 26227-73-6 67589-41-7 **209339-00-4**
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (electrooptical display devices with **liquid crystal** compns. containing diketopyrrolopyrroles and)
 IT **209338-98-7**
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (electrooptical display devices with **liquid crystal** compns. containing diketopyrrolopyrroles. and)
 IT 26960-82-7P 67106-71-2P 70247-25-5P 73642-72-5P 85754-27-4P
 194029-82-8P 194029-83-9P 247079-04-5P 247079-05-6P 247079-06-7P
 247079-08-9P 247079-12-5P 247079-14-7P 247079-15-8P
247079-16-9P 247079-17-0P 247079-19-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction in preparing diketopyrrolopyrrole **liquid crystal** for electrooptical display devices)
 IT 247079-09-0P 247079-10-3P 247079-11-4P
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation and reaction in preparing diketopyrrolopyrrole **liquid crystal** for electrooptical display devices)
 IT 205104-10-5P 205104-11-6P 205104-12-7P
 205104-13-8P 205104-14-9P 209338-47-6P
 209338-48-7P 209338-49-8P 209338-50-1P
 209338-52-3P 209338-53-4P 209338-54-5P
 209338-55-6P 209338-56-7P 209338-58-9P
 209338-59-0P 209338-60-3P 209338-61-4P
 209338-63-6P 209338-64-7P 209338-65-8P
 209338-66-9P 209338-67-0P 209338-69-2P
 209338-70-5P 209338-71-6P 209338-72-7P
 209338-73-8P 209338-74-9P 209338-75-0P
 209338-77-2P 209338-80-7P 209338-81-8P
 209338-83-0P 209338-84-1P 209338-85-2P
 209338-86-3P 209338-88-5P 209338-89-6P
 209338-94-3P 209338-95-4P 209338-96-5P
 247079-13-6P 247079-18-1P 247079-20-5P
 247079-21-6P 247079-22-7P 247079-23-8P
 247079-24-9P 247079-25-0P
 RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation and use in preparing **liquid crystal** compns. for electrooptical display devices)
 IT 105-07-7, 4-Cyanobenzaldehyde 110-87-2, 3,4-Dihydro-2H-pyran 112-29-8,
 1-Bromodecane 112-55-0, 1-Dodecanethiol 124-13-0, Octanal 141-05-9
 504-63-2, 1,3-Propanediol 544-77-4, 1-Iodohexadecane 623-03-0,
 4-Chlorobenzonitrile 767-00-0, 4-Hydroxybenzonitrile 924-88-9

2917-26-2, 1-Hexadecanethiol 4282-40-0, 1-Iodoheptane 14593-46-5
 19179-36-3, 3,5-Dihydroxybenzonitrile 19812-93-2, 4'-Hydroxy-4-
 biphenylcarbonitrile 21129-09-9, 1,2-Tetradecanediol 29147-92-0
 247079-07-8

RL: RCT (Reactant); RACT (Reactant or reagent)
 (reaction in preparing diketopyrrolopyrrole **liquid crystal**
 for electrooptical display devices)

IT **209339-00-4**

RL: DEV (Device component use); TEM (Technical or engineered material
 use); USES (Uses)

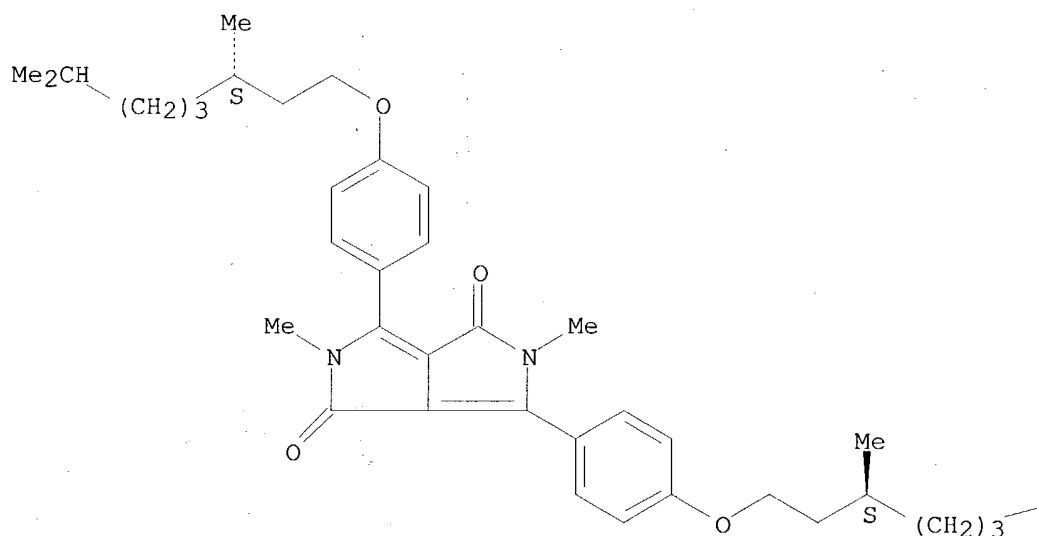
(electrooptical display devices with **liquid crystal**
 compns. containing diketopyrrolopyrroles and)

RN 209339-00-4 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-[[(3S)-3,7-
 dimethyloctyl]oxy]phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

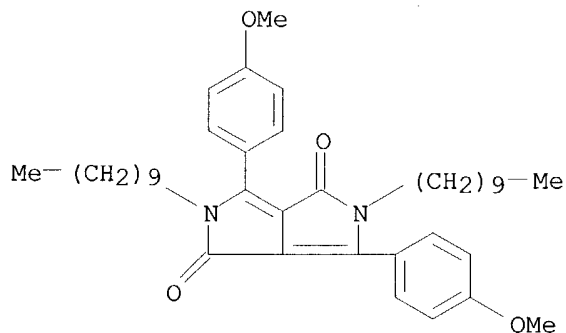
PAGE 1-A



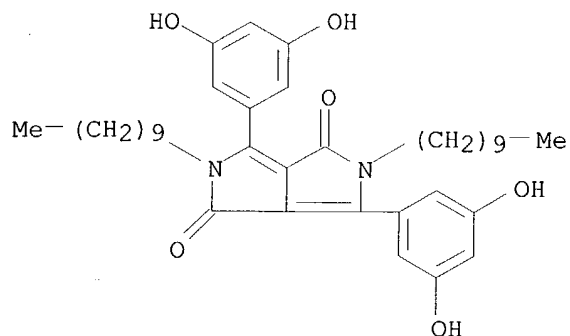
PAGE 1-B

CHMe₂

IT **209338-98-7**
 RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
 (electrooptical display devices with **liquid crystal** compns. containing diketopyrrolopyrroles. and)
 RN 209338-98-7 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didecyl-2,5-dihydro-3,6-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



IT **247079-16-9P**
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and reaction in preparing diketopyrrolopyrrole **liquid crystal** for electrooptical display devices)
 RN 247079-16-9 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didecyl-3,6-bis(3,5-dihydroxyphenyl)-2,5-dihydro- (9CI) (CA INDEX NAME)

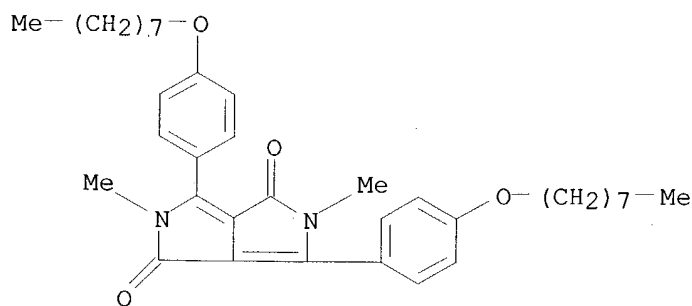


IT 205104-10-5P 205104-11-6P 205104-12-7P
 205104-13-8P 205104-14-9P 209338-47-6P
 209338-48-7P 209338-49-8P 209338-50-1P
 209338-52-3P 209338-53-4P 209338-54-5P
 209338-55-6P 209338-56-7P 209338-58-9P
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 247079-13-6P 247079-18-1P 247079-20-5P
 247079-21-6P 247079-22-7P 247079-23-8P
 247079-24-9P 247079-25-0P

RL: DEV (Device component use); SPN (Synthetic preparation); TEM
 (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (preparation and use in preparing **liquid crystal** comps. for
 electrooptical display devices)

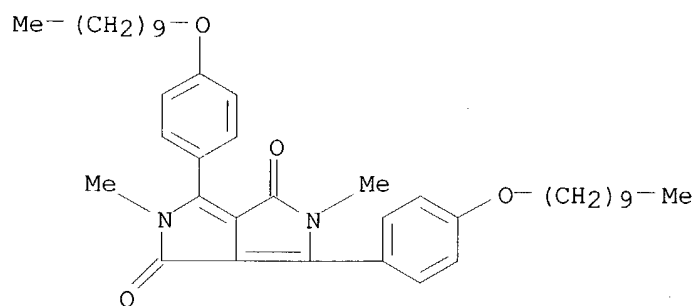
RN 205104-10-5 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-
 (octyloxy)phenyl]- (9CI) (CA INDEX NAME)



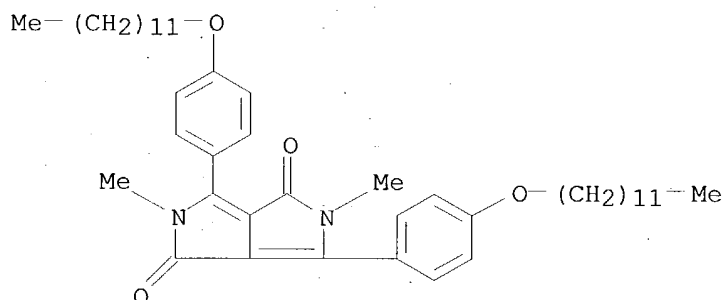
RN 205104-11-6 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(decyloxy)phenyl]-2,5-dihydro-
 2,5-dimethyl- (9CI) (CA INDEX NAME)



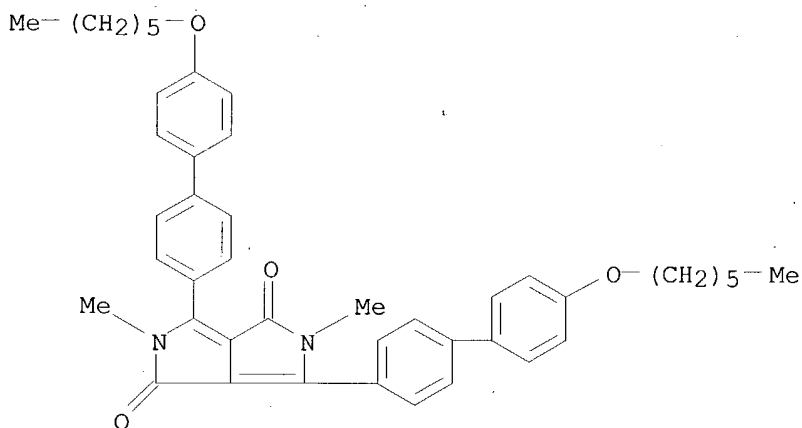
RN 205104-12-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(dodecyloxy)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



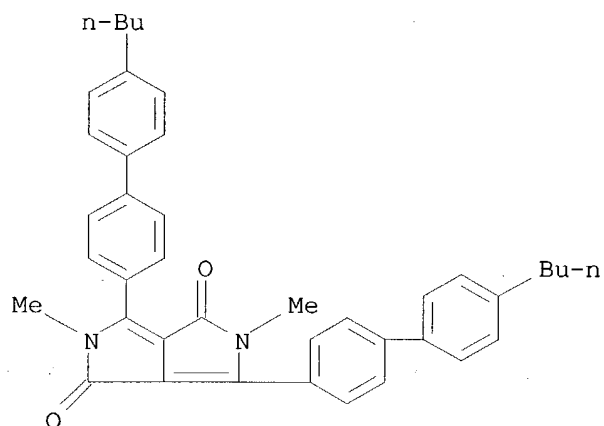
RN 205104-13-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4'-(hexyloxy)[1,1'-biphenyl]-4-yl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



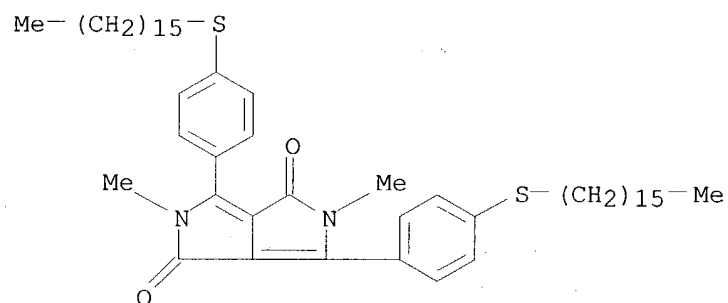
RN 205104-14-9 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis(4'-butyl[1,1'-biphenyl]-4-yl)-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



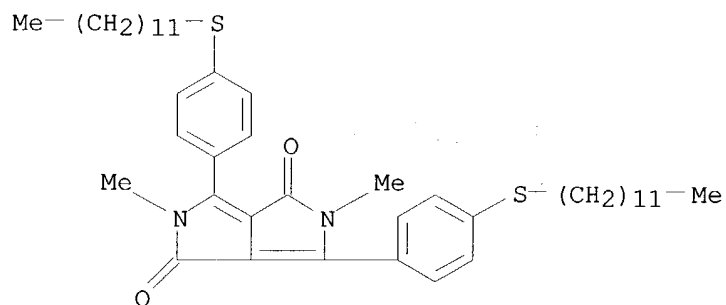
RN 209338-47-6 HCAPLUS

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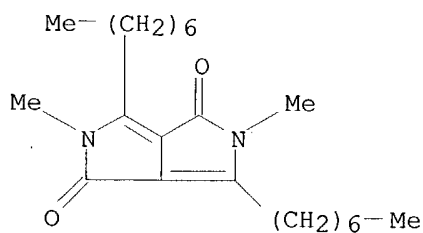
RN 209338-48-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(dodecylthio)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



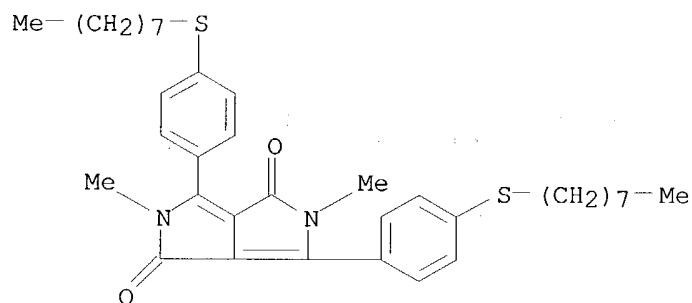
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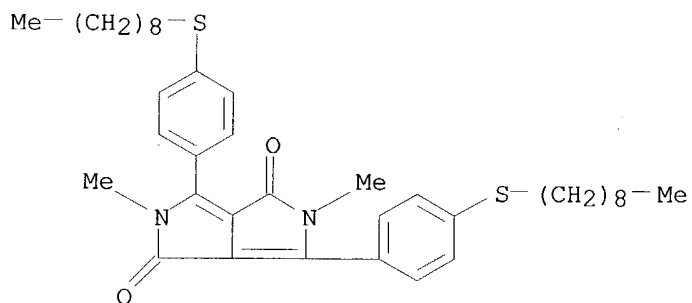
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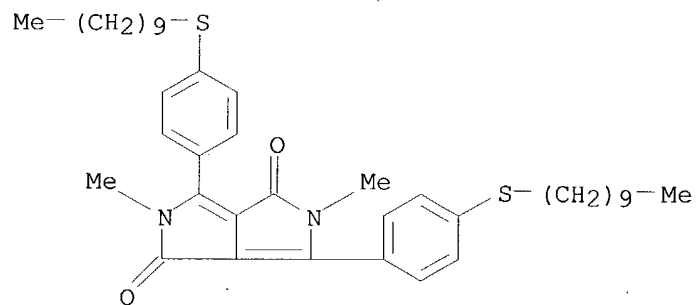
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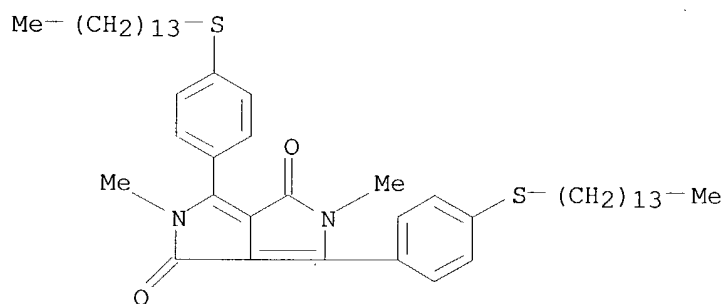


RN 209338-53-4 HCAPLUS

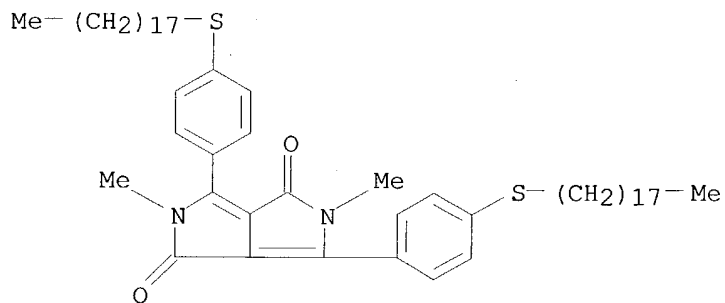
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(decylthio)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



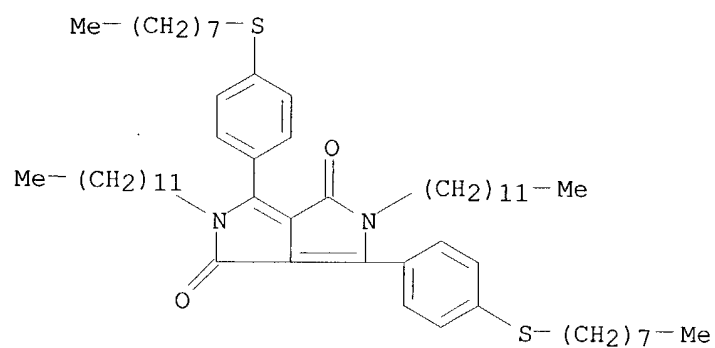
RN 209338-54-5 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(tetradecylthio)phenyl]- (9CI) (CA INDEX NAME)



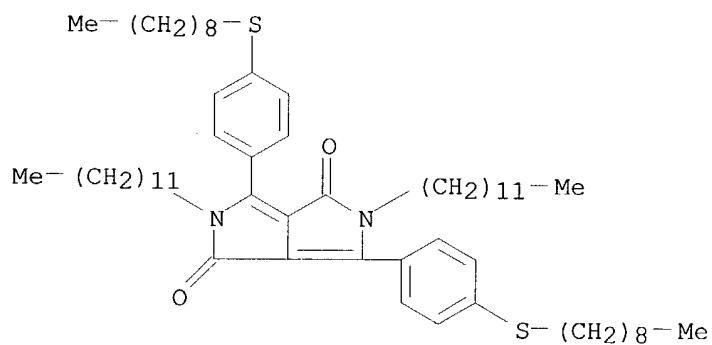
RN 209338-55-6 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(octadecylthio)phenyl]- (9CI) (CA INDEX NAME)



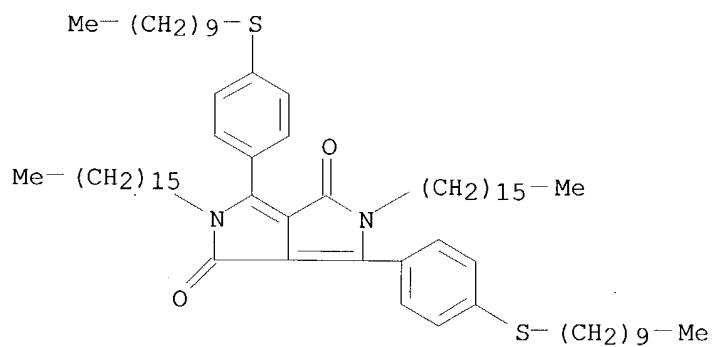
RN 209338-56-7 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didodecyl-2,5-dihydro-3,6-bis[4-(octylthio)phenyl]- (9CI) (CA INDEX NAME)



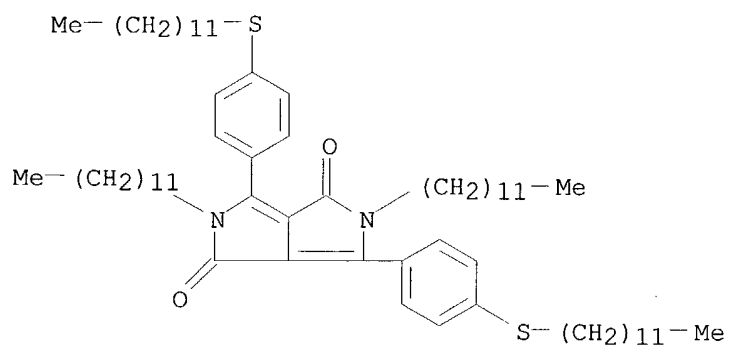
RN 209338-58-9 HCAPLUS
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RN 209338-59-0 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(decylthio)phenyl]-2,5-dihexadecyl-2,5-dihydro- (9CI) (CA INDEX NAME)

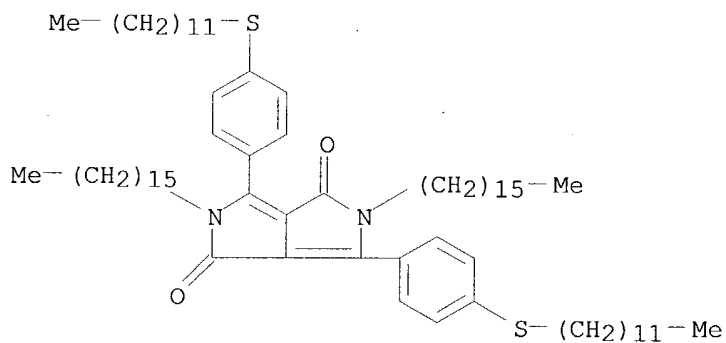


RN 209338-60-3 HCAPLUS
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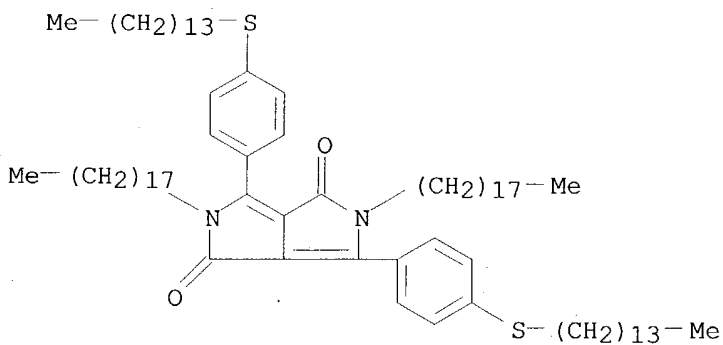
RN 209338-61-4 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(dodecylthio)phenyl]-2,5-dihexadecyl-2,5-dihydro- (9CI) (CA INDEX NAME)



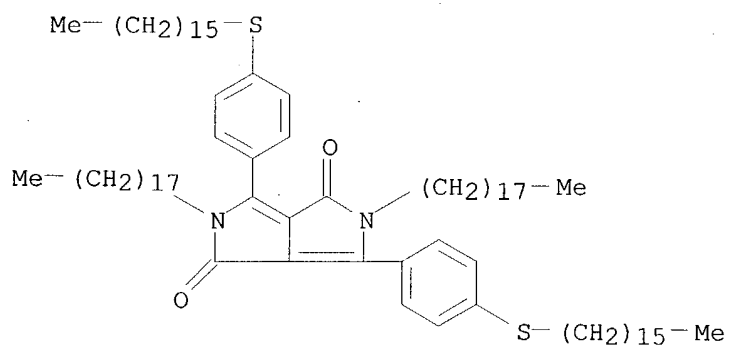
RN 209338-63-6 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dioctadecyl-3,6-bis[4-(tetradecylthio)phenyl]- (9CI) (CA INDEX NAME)



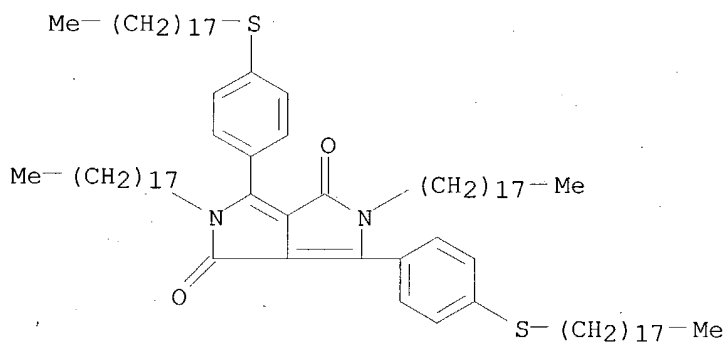
RN 209338-64-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(hexadecylthio)phenyl]-2,5-dihydro-2,5-dioctadecyl- (9CI) (CA INDEX NAME)



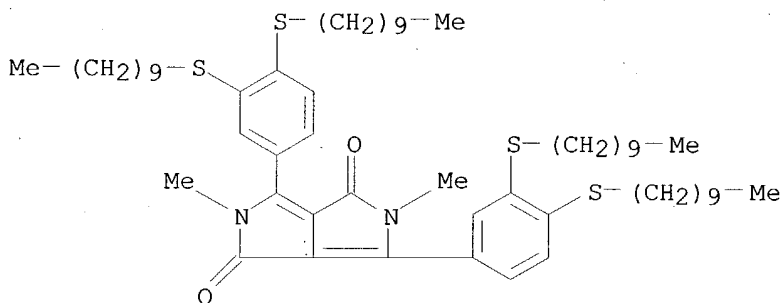
RN 209338-65-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dioctadecyl-3,6-bis[4-(octadecylthio)phenyl]- (9CI) (CA INDEX NAME)



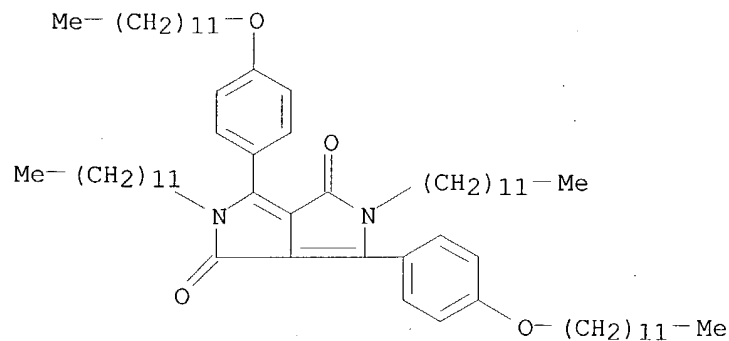
RN 209338-66-9 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[3,4-bis(decylthio)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



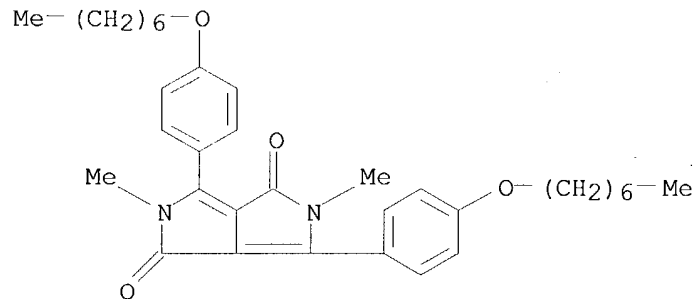
RN 209338-67-0 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didodecyl-3,6-bis[4-(dodecyloxy)phenyl]-2,5-dihydro- (9CI) (CA INDEX NAME)



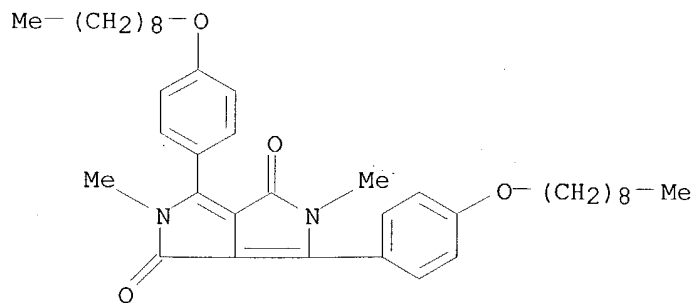
RN 209338-69-2 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(heptyloxy)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



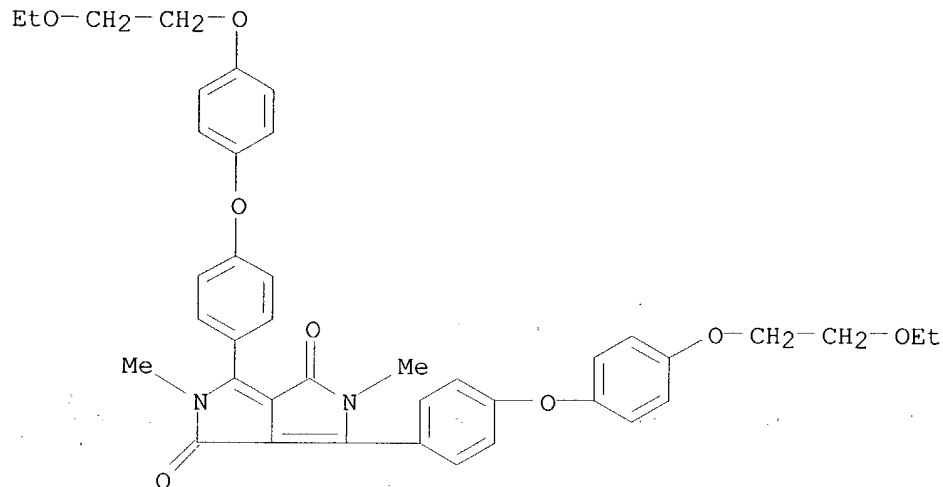
RN 209338-70-5 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(nonyloxy)phenyl]- (9CI) (CA INDEX NAME)

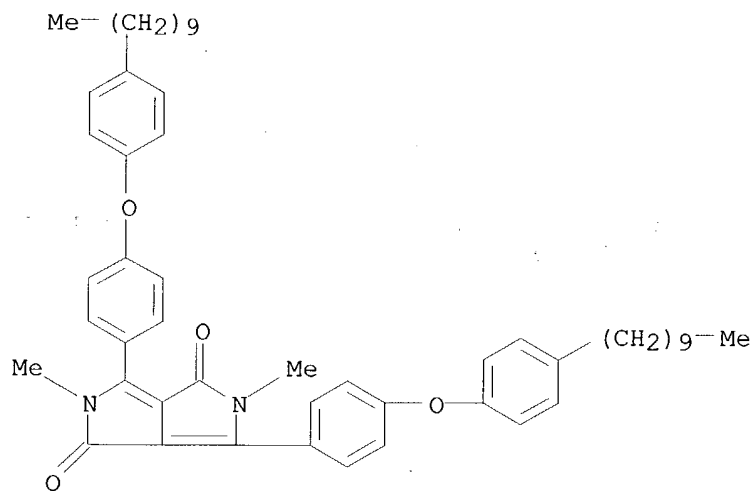


RN 209338-71-6 HCAPLUS

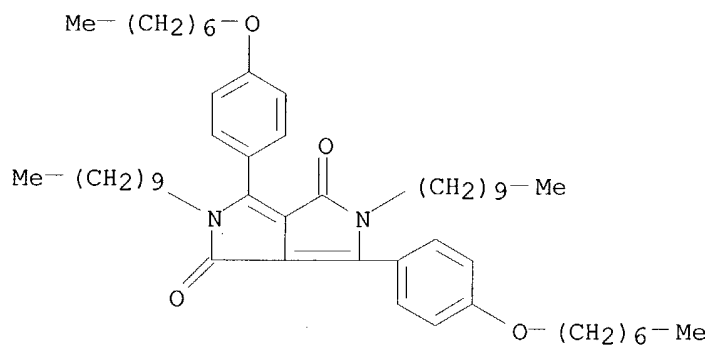
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-[4-(2-ethoxyethoxy)phenoxy]phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



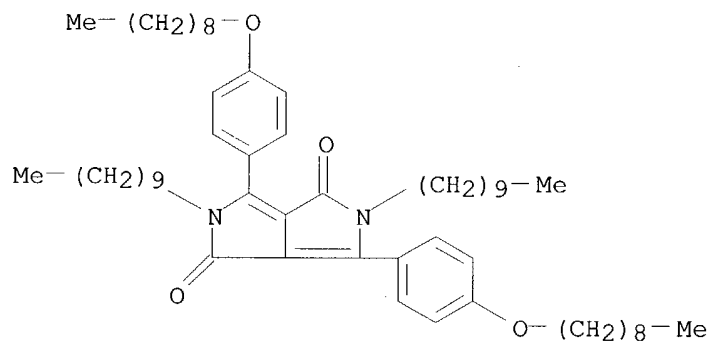
RN 209338-72-7 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(4-decylphenoxy)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



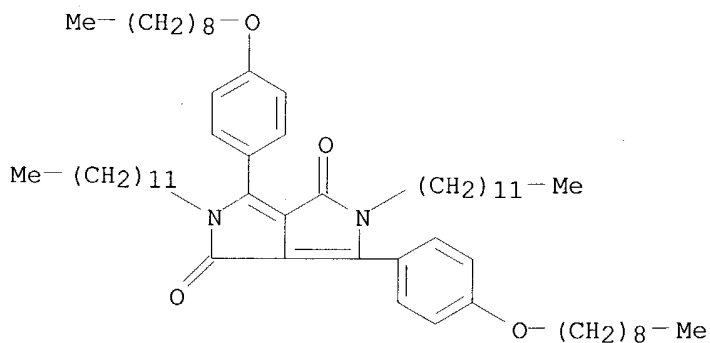
RN 209338-73-8 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didecyl-3,6-bis[4-(heptyloxy)phenyl]-2,5-dihydro- (9CI) (CA INDEX NAME)



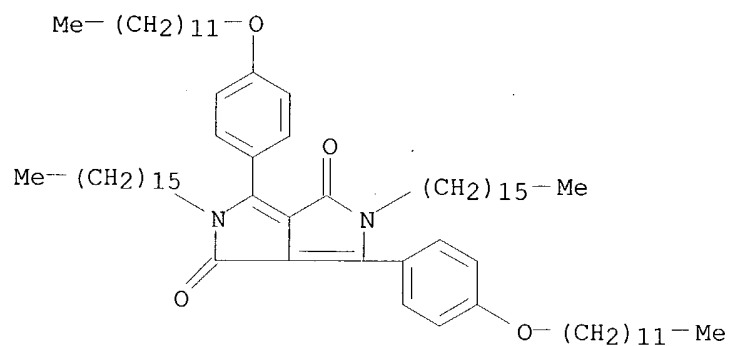
RN 209338-74-9 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didecyl-2,5-dihydro-3,6-bis[4-(nonyloxy)phenyl]- (9CI) (CA INDEX NAME)



RN 209338-75-0 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didodecyl-2,5-dihydro-3,6-bis[4-(nonyloxy)phenyl]- (9CI) (CA INDEX NAME)

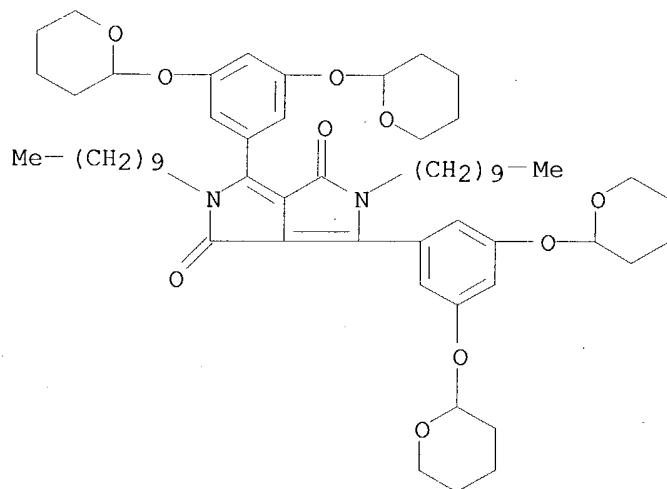


RN 209338-77-2 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(dodecyloxy)phenyl]-2,5-dihexadecyl-2,5-dihydro- (9CI) (CA INDEX NAME)



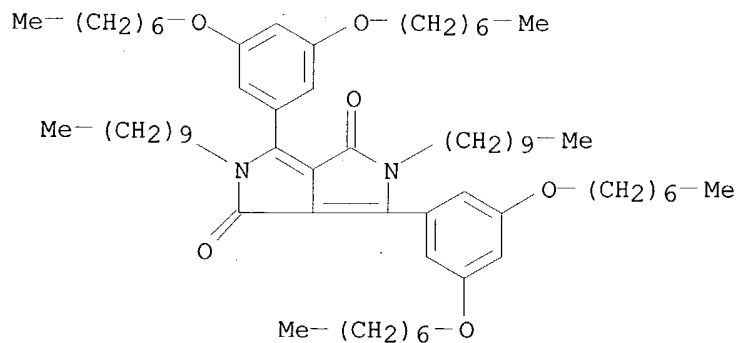
RN 209338-80-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[3,5-bis[(tetrahydro-2H-pyran-2-yl)oxy]phenyl]-2,5-didecyl- (9CI) (CA INDEX NAME)



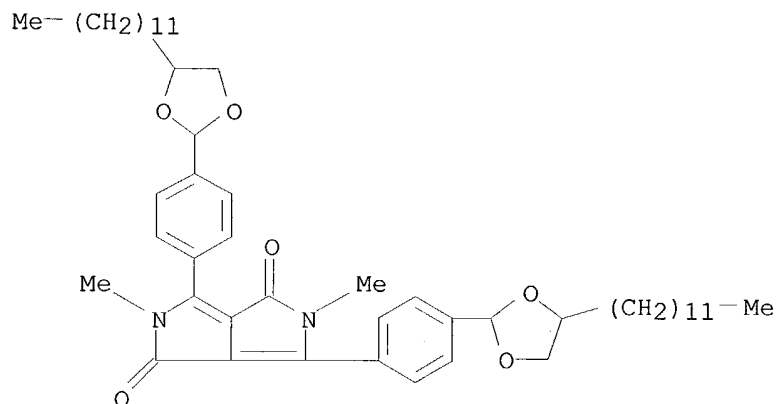
RN 209338-81-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[3,5-bis(heptyloxy)phenyl]-2,5-didecyl- (9CI) (CA INDEX NAME)



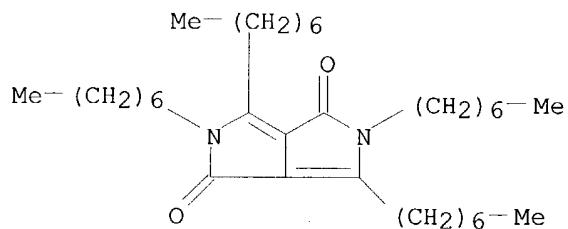
RN 209338-83-0 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(4-dodecyl-1,3-dioxolan-2-yl)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



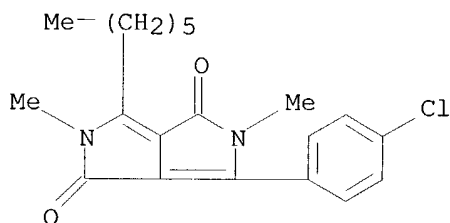
RN 209338-84-1 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,3,5,6-tetraheptyl-2,5-dihydro- (9CI) (CA INDEX NAME)



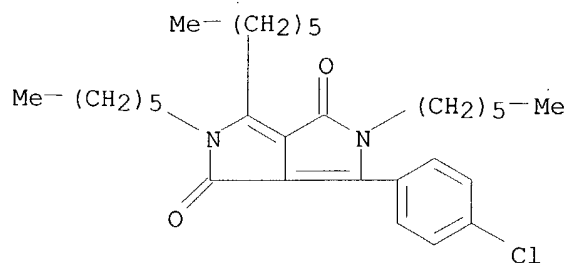
RN 209338-85-2 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3-(4-chlorophenyl)-6-hexyl-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



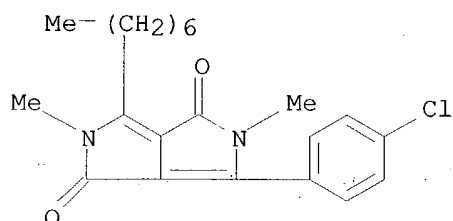
RN 209338-86-3 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3-(4-chlorophenyl)-2,5,6-trihexyl-2,5-dihydro- (9CI) (CA INDEX NAME)



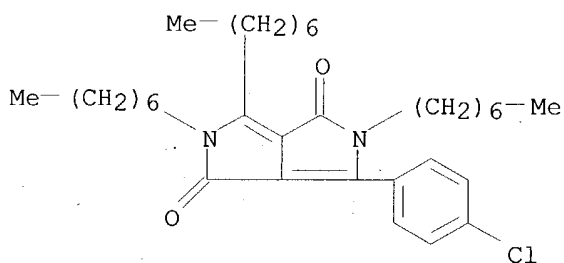
RN 209338-88-5 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3-(4-chlorophenyl)-6-heptyl-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



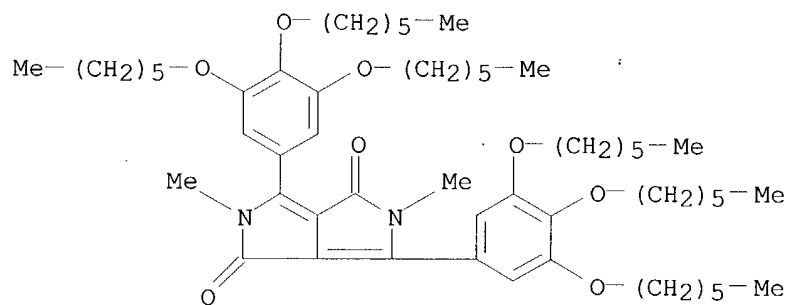
RN 209338-89-6 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3-(4-chlorophenyl)-2,5,6-triethyl-2,5-dihydro- (9CI) (CA INDEX NAME)

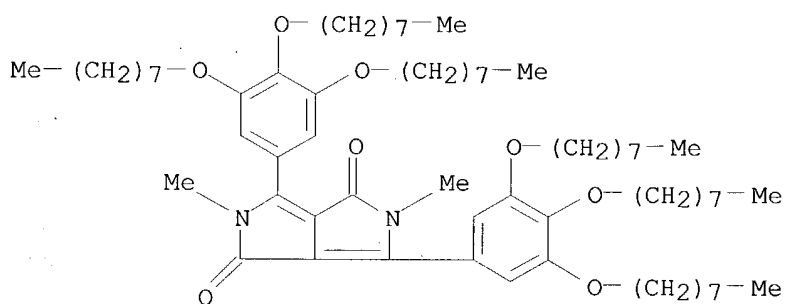


RN 209338-94-3 HCAPLUS

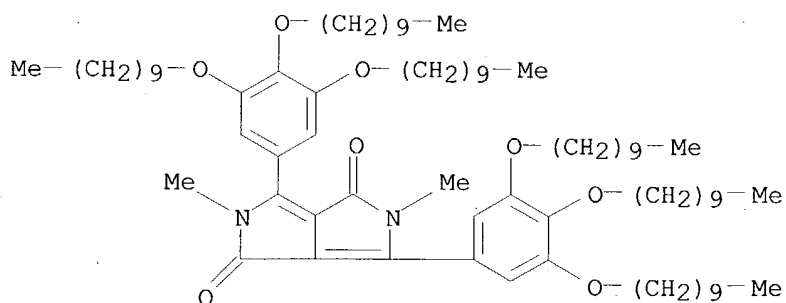
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[3,4,5-tris(hexyloxy)phenyl]- (9CI) (CA INDEX NAME)



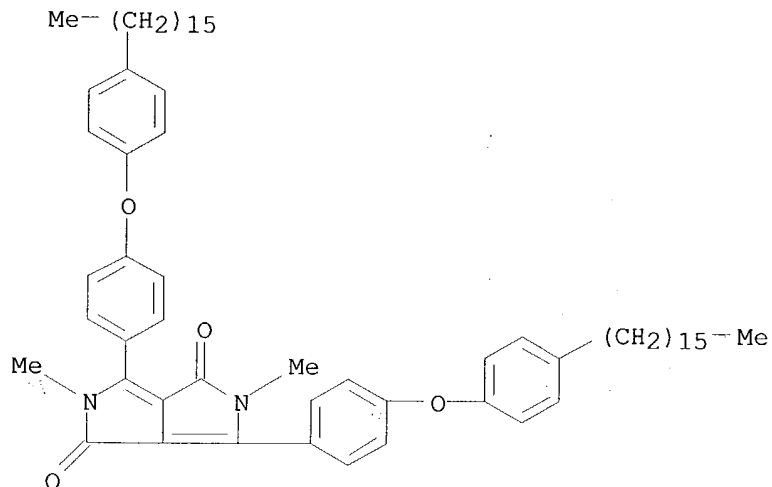
RN 209338-95-4 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[3,4,5-tris(octyloxy)phenyl]- (9CI) (CA INDEX NAME)



RN 209338-96-5 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[3,4,5-tris(decyloxy)phenyl]- (9CI) (CA INDEX NAME)

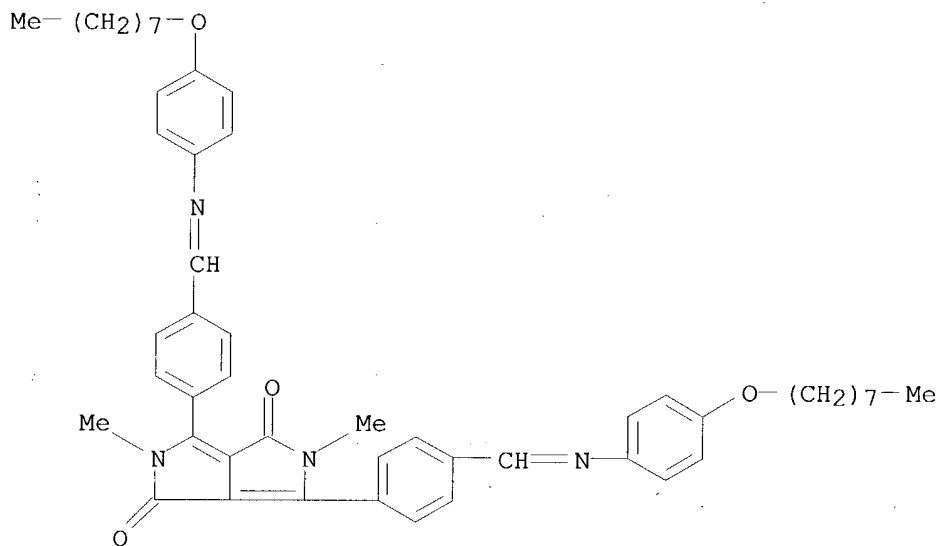


RN 247079-13-6 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(4-hexadecylphenoxy)phenyl]-2,5-dimethyl-2,5-dihydro- (9CI) (CA INDEX NAME)



RN 247079-18-1 HCAPLUS

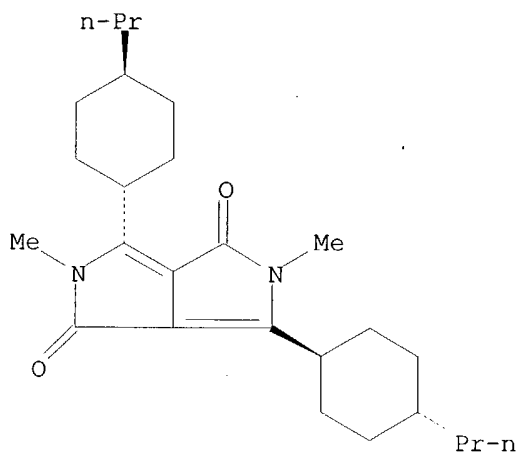
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-[[[4-(octyloxy)phenyl]imino]methyl]phenyl]- (9CI) (CA INDEX NAME)



RN 247079-20-5 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis(trans-4-propylcyclohexyl)- (9CI) (CA INDEX NAME)

Relative stereochemistry.

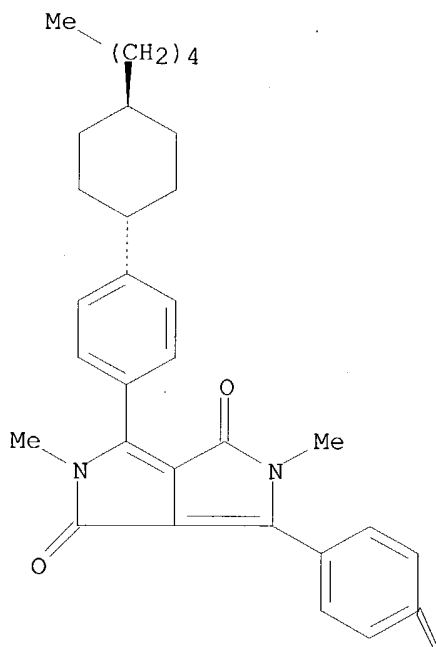


RN 247079-21-6 HCAPLUS

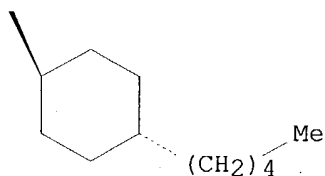
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(trans-4-pentylcyclohexyl)phenyl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



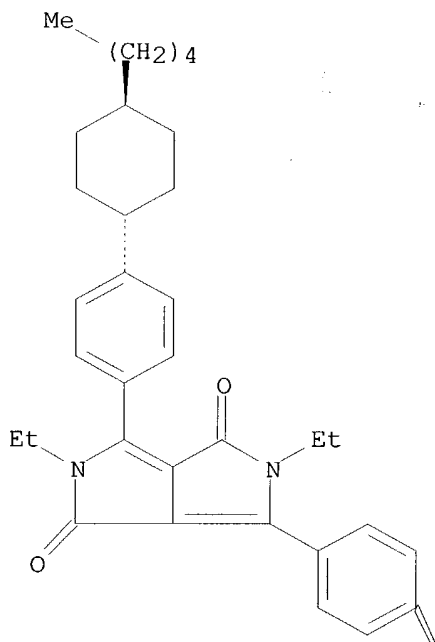
PAGE 2-A



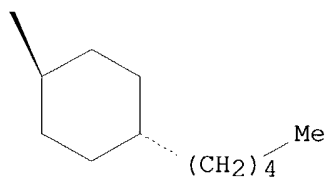
RN 247079-22-7 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-diethyl-2,5-dihydro-3,6-bis[4-(trans-4-pentylcyclohexyl)phenyl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



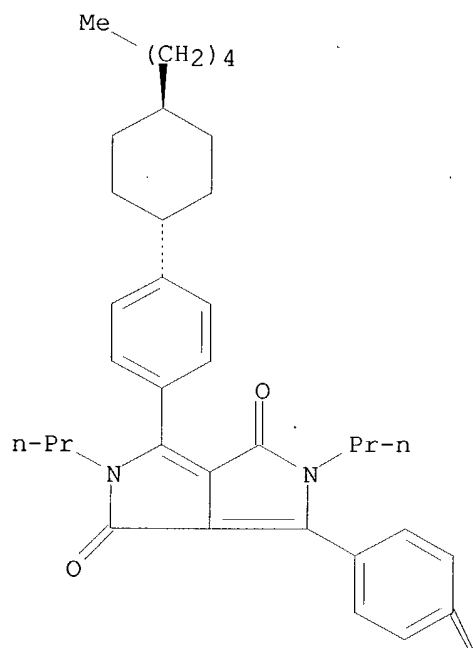
PAGE 2-A



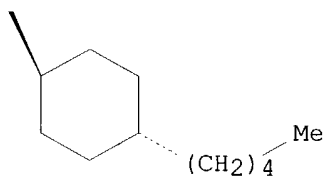
RN 247079-23-8 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-3,6-bis[4-(trans-4-pentylcyclohexyl)phenyl]-2,5-dipropyl- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A

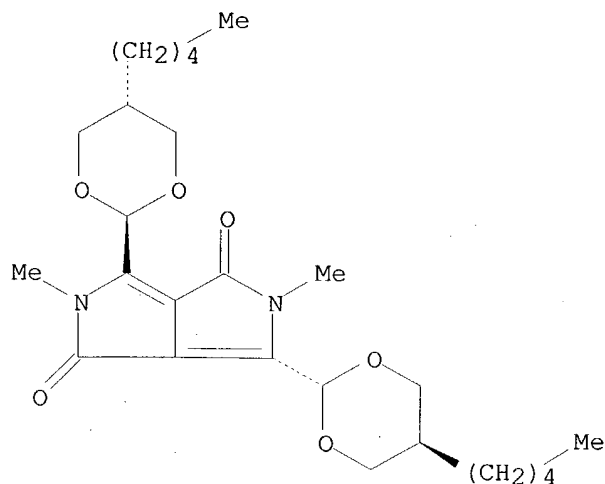


PAGE 2-A

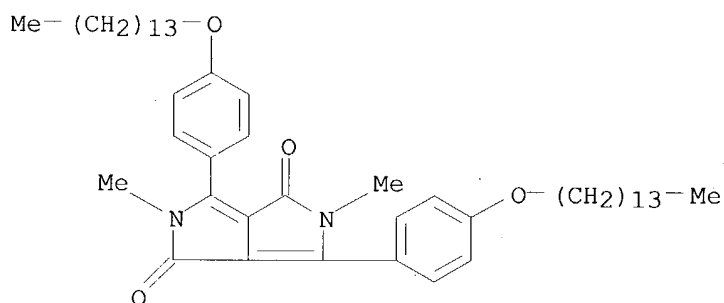


RN 247079-24-9 HCAPLUS
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis(trans-5-pentyl-1,3-dioxan-2-yl)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 247079-25-0 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(tetradecyloxy)phenyl]- (9CI) (CA INDEX NAME)



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 15 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1999:70371 HCAPLUS
 DN 130:125868
 TI Reactive extrusion of latent pigments and use of pigment concentrates formed thereby
 IN Leugs, Johannes; Hao, Zhimin; Iqbal, Abul
 PA Ciba Specialty Chemicals Holding Inc., Switz.
 SO Eur. Pat. Appl., 29 pp.
 CODEN: EPXXDW

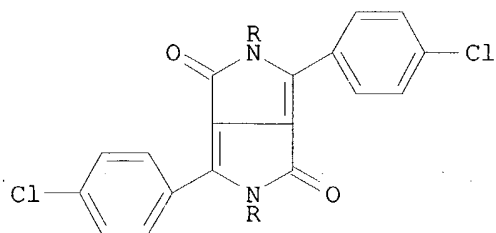
DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 892018	A1	19990120	EP 1998-810610	19980701
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6160037	A	20001212	US 1998-111580	19980708

JP 11092695	A2	19990406	JP 1998-193979	19980709
PRAI EP 1997-810458	A	19970710		
EP 1997-810987	A	19971216		

GI



AB Pigment concs. with improved dispersibility, transparency, and color strength are obtained by (a) mixing a latent pigment (i.e., a compound forming a pigment when heated) with a polymerizable substance, (b) treating the mixture of step (a) with heat while mixing the reaction mixture (e.g., in an extruder), and (c) cooling. These concs. are useful in coloring plastics, coatings, inks, cosmetics, glasses, ceramics, and optical materials. A typical concentrate was manufactured by feeding 10 kg 70:30 Me

methacrylate-Bu acrylate mixture, 3 kg 70:30 tert-Bu peroxyneodecanoate-tert-Bu ethylhexyl peroxycarbonate mixture, and latent pigment I (R = CO₂CMe₂Et) into 13 zones of an extruder at 2.46, 0.15, and 0.54 kg/h, resp., and ≤160° with the concentration of resulting I (R = H) pigment being 16%.

IC ICM C09B067-20

ICS C09B067-02; C08K005-00

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 35, 41, 42, 57, 62, 74

IT Optical filters

(extrusion of latent pigments in polymerizable compns. for manufacture of pigment concs. for **color filters**)

IT **Liquid crystal** displays

(extrusion of latent pigments in polymerizable compns. for manufacture of pigment concs. for **liquid crystal** displays)

IT 209129-65-7

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(extrusion of latent pigments in polymerizable compns. for manufacture of pigment concs.)

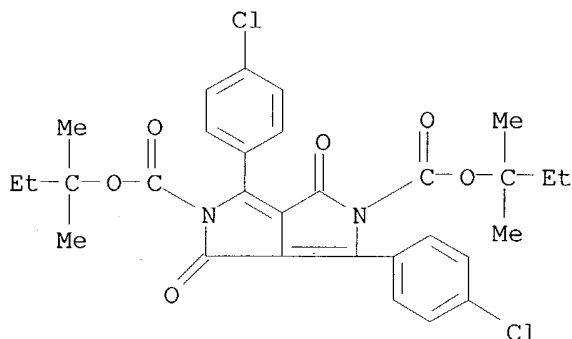
IT 209129-65-7

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(extrusion of latent pigments in polymerizable compns. for manufacture of pigment concs.)

RN 209129-65-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis(4-chlorophenyl)-1,4-dioxo-, bis(1,1-dimethylpropyl) ester (9CI) (CA INDEX NAME)



RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

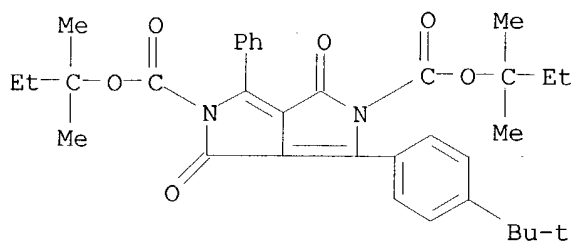
L17 ANSWER 16 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:685130 HCAPLUS
DN 129:296168
TI Black-pigmented structured high molecular weight material for black matrix
for optical **color filter**
IN Schadel, Ulrich; Tinguely, Eric; Hall-Goulle, Veronique; De, Keyzer
Gerardus
PA Ciba Specialty Chemicals Holding Inc., Switz.
SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 4

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9845757	A1	19981015	WO 1998-EP1800	19980326
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9872114	A1	19981030	AU 1998-72114	19980326
EP 974075	A1	20000126	EP 1998-919165	19980326
EP 974075	B1	20020814		
R: CH, DE, FR, GB, IT, LI				
JP 2002512647	T2	20020423	JP 1998-542321	19980326
US 6010567	A	20000104	US 1998-57090	19980408
US 6165681	A	20001226	US 1999-376188	19990817
US 6211347	B1	20010403	US 2000-539912	20000330
PRAI CH 1997-822	A	19970409		
CH 1997-823	A	19970409		
CH 1997-1573	A	19970630		
CH 1997-2896	A	19971216		
WO 1998-EP1800	W	19980326		
US 1998-57090	A3	19980408		
US 1998-107545	A3	19980630		

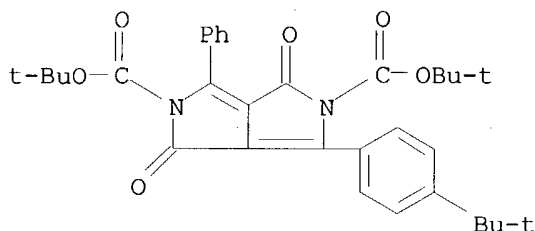
AB This invention relates to a black-pigmented high mol. weight organic material which is structured from a radiation-sensitive precursor by irradiation, the

pigmentation of which material consists of colored organic pigments, at least one of which is in latent form before irradiation This material is preferably used as a thin layer which is built up in the form of patterns on a transparent substrate and which can be used, for example, as black matrix for optical **color filters**. This invention also relates to a process for the preparation of this material as well as to novel soluble derivs. of yellow disazo condensation pigments which can be used in this process.

- IC ICM G03C007-12
ICS G03F007-00; G03F007-105; B41M003-00; C09B067-22; C09B067-02
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT Optical filters
(black-pigmented structured high mol. weight material for black matrix for optical **color filter**)
- IT 10539-50-1P 105194-22-7P 211322-16-6P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(black-pigmented structured high mol. weight material for black matrix for optical **color filter**)
- IT 105-39-5P, Ethyl chloroacetate 65697-21-4P, Benzyl methacrylate--methacrylic acid copolymer **214289-81-3P 214289-82-4P**
214289-83-5P 214289-84-6P 214289-86-8P 214327-88-5P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(black-pigmented structured high mol. weight material for black matrix for optical **color filter**)
- IT 147-14-8, Copper phthalocyanine 577-11-7, Sulfosuccinic acid bis-2-ethylhexyl ester sodium salt 631-61-8, Ammonium acetate 870-46-2, tert-Butylcarbazate 4210-32-6, 4-tert-Butylbenzonitrile 5580-57-4, C.I. Pigment Yellow 93 17741-63-8, Chlorosulfuric acid 24424-99-5, Di-tert-butyl-dicarbonate 57971-98-9, C.I. Pigment Violet 37 68134-22-5, C.I. Pigment Yellow 154 68835-89-2, Di-tert-amyl-dicarbonate 79953-85-8, C.I. Pigment Yellow 128 214289-85-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(black-pigmented structured high mol. weight material for black matrix for optical **color filter**)
- IT **214289-81-3P 214289-82-4P**
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(black-pigmented structured high mol. weight material for black matrix for optical **color filter**)
- RN 214289-81-3 HCAPLUS
- CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3-[4-(1,1-dimethylethyl)phenyl]-1,4-dioxo-6-phenyl-, bis(1,1-dimethylpropyl) ester (9CI) (CA INDEX NAME)



RN 214289-82-4 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3-[4-(1,1-dimethylethyl)phenyl]-1,4-dioxo-6-phenyl-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



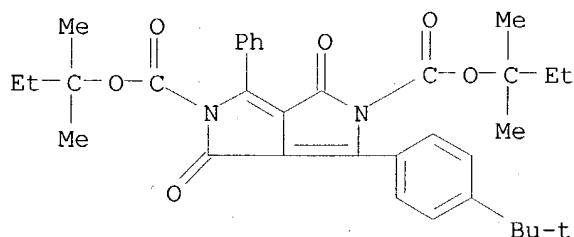
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 17 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1998:685129 HCAPLUS
 DN 129:323873
 TI Highly transparent, color-pigmented high molecular weight material for optical **color filter**
 IN Schadeli, Ulrich; Tinguely, Eric; Hall-Goule, Veronique; Wolleb, Heinz; Hao, Zhimin; Iqbal, Abul
 PA Ciba Specialty Chemicals Holding Inc., Switz.
 SO PCT Int. Appl., 50 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9845756	A1	19981015	WO 1998-EP1799	19980326
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9870421	A1	19981030	AU 1998-70421	19980326
	EP 974074	A1	20000126	EP 1998-917092	19980326
	EP 974074	B1	20030108		
	R: CH, DE, FR, GB, IT, LI				
	JP 2001521563	T2	20011106	JP 1998-542320	19980326
	US 6120944	A	20000919	US 1998-57089	19980408
	US 6165681	A	20001226	US 1999-376188	19990817
PRAI	CH 1997-822	A	19970409		
	CH 1997-823	A	19970409		
	CH 1997-1573	A	19970630		
	CH 1997-2896	A	19971216		
	WO 1998-EP1799	W	19980326		
	US 1998-57090	A3	19980408		
AB	The invention relates to a color-pigmented high mol. weight organic material structured from a radiation-sensitive precursor by irradiation, the pigmentation of which material consists of extremely fine particles, at				

least 80 mol % of the pigmentation consisting of a pigment of the class diketopyrrolopyrrole, dioxazine, isoindoline, isoindolinone, disazo condensation yellow or benzimidazolonoazo, each containing at least one -NHCO-group, and, where appropriate, a second pigment of the class diketopyrrolopyrrole, dioxazine, isoindoline, isoindolinone, benzimidazolonoazo, disazo or phthalocyanine, and, when the structure of the main pigment is point-sym., the two pigments being present in a balanced molar ratio of from 1:1 to 7:3. Those materials are used preferably in the form of thin layers which are built up in patterns in one or more layers on a transparent substrate and can be used, for example, as optical **color filters**.

- IC ICM G03C007-12
ICS G03F007-00; G03F007-105; B41M003-00; C09B067-22
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST **color pigment mol wt optical filter**
- IT **Optical filters**
(highly transparent, **color**-pigmented high mol. weight material for optical **color filter**)
- IT **214289-81-3P**
RL: PNU (Preparation, unclassified); PREP (Preparation)
(highly transparent, **color**-pigmented high mol. weight material for optical **color filter**)
- IT 10539-50-1P 105194-22-7P 211321-89-0P 211321-90-3P 211322-16-6P
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(highly transparent, **color**-pigmented high mol. weight material for optical **color filter**)
- IT 24424-99-5P 65697-21-4P, Benzyl methacrylate-methacrylic acid copolymer
167093-32-5P 167093-34-7P 167093-44-9P
184234-13-7P **214289-82-4P** 214289-83-5P 214327-88-5P
214636-35-8P 214636-36-9P
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(highly transparent, **color**-pigmented high mol. weight material for optical **color filter**)
- IT 74-88-4, Methyl iodide, reactions 75-44-5, Phosgene 105-39-5, Ethyl chloroacetate 147-14-8, Copper phthalocyanine 577-11-7, Sulfosuccinic acid bis-2-ethylhexyl ester sodium salt 631-61-8, Ammonium acetate 870-46-2, tert-Butylcarbazate 4210-32-6, 4-tert-Butylbenzonitrile 5045-40-9, C.I. Pigment Yellow 109 7790-94-5, Chlorosulfuric acid 17741-63-8, C.I. Pigment Violet 37 54660-00-3, C.I. Pigment Red 255 57982-39-5 68835-89-2, Di-tert-amylidicarbonate 84632-59-7, C.I. Pigment Orange 73
RL: RCT (Reactant); RACT (Reactant or reagent)
(highly transparent, **color**-pigmented high mol. weight material for optical **color filter**)
- IT **214289-81-3P**
RL: PNU (Preparation, unclassified); PREP (Preparation)
(highly transparent, **color**-pigmented high mol. weight material for optical **color filter**)
- RN 214289-81-3 HCAPLUS
- CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3-[4-(1,1-dimethylethyl)phenyl]-1,4-dioxo-6-phenyl-, bis(1,1-dimethylpropyl) ester (9CI) (CA INDEX NAME)

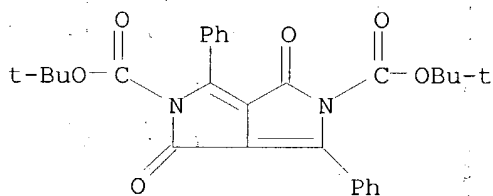


IT 167093-32-5P 167093-34-7P 167093-44-9P
214289-82-4P 214636-35-8P

RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(highly transparent, color-pigmented high mol. weight material for optical color filter)

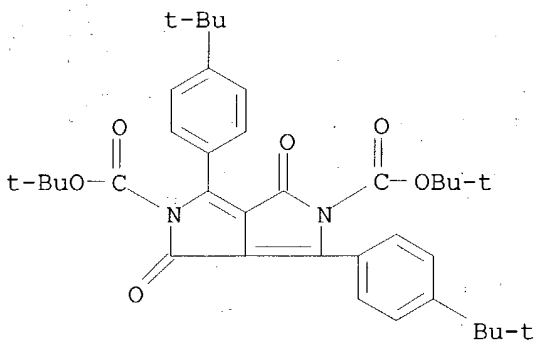
RN 167093-32-5 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 1,4-dioxo-3,6-diphenyl-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



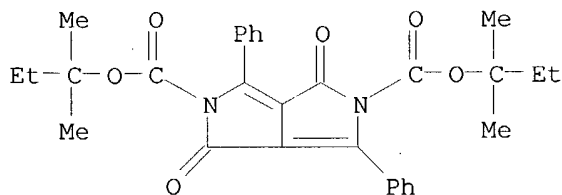
RN 167093-34-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis[4-(1,1-dimethylethyl)phenyl]-1,4-dioxo-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



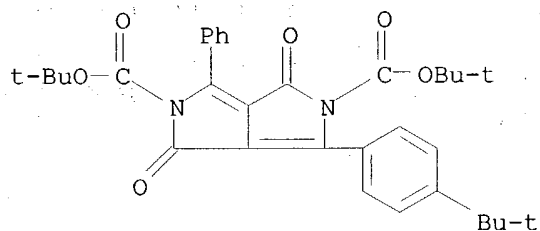
RN 167093-44-9 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 1,4-dioxo-3,6-diphenyl-, bis(1,1-dimethylpropyl) ester (9CI) (CA INDEX NAME)



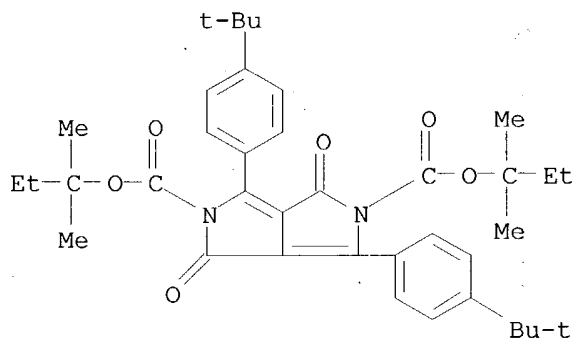
RN 214289-82-4 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3-[4-(1,1-dimethylethyl)phenyl]-1,4-dioxo-6-phenyl-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



RN 214636-35-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 3,6-bis[4-(1,1-dimethylethyl)phenyl]-1,4-dioxo-, bis(1,1-dimethylpropyl) ester (9CI) (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 18 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1998:402443 HCAPLUS

DN 129:88080

TI Diketopyrrolopyrrole **liquid crystal** for electrooptical display device

IN Hao, Zhimin; Iqbal, Abul; Tebaldi, Nancy; Praefcke, Klaus

PA Ciba Specialty Chemicals Holding Inc., Switz.

SO PCT Int. Appl., 44 pp.

CODEN: PIXXD2

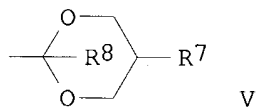
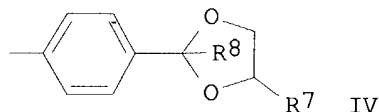
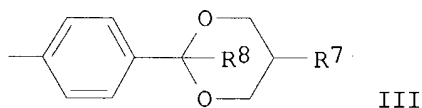
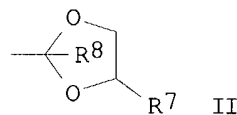
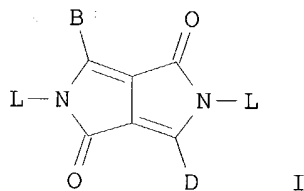
DT Patent

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9825927	A1	19980618	WO 1997-EP6641	19971128
	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
	AU 9857520	A1	19980703	AU 1998-57520	19971128
	EP 944632	A1	19990929	EP 1997-953711	19971128
	EP 944632	B1	20010214		
	R: CH, DE, FR, GB, IT, LI				
	JP 2001505887	T2	20010508	JP 1998-526151	19971128
	TW 442556	B	20010623	TW 1997-86119577	19971223
PRAI	CH 1996-3026	A	19961210		
	WO 1997-EP6641	W	19971128		
OS	MARPAT 129:88080				
GI					



AB A compound of the formula I (B, D = C₆-24 alkyl, C₆H₄R₂, or 3,4,5-C₆H₂R₃R₄R₅; L = CO-p-C₆H₄R₁, p-C₆H₄R₁, p-C₆H₄OR₁, p-C₆H₄SR₁, or C₁-37 alkyl; R₁ = C₄-18 alkyl; R₂ = H, C₁-4 alkyl, C₁-4 alkoxy, halogen, cyano, or nitro; R₃-5 = H, OR₆, SR₆, SeR₆, NHR₆, NR₆R₇, II-V, p-C₆H₄R₉, p-C₆H₄OR₉, p-C₆H₄SR₉, or CH=N-p-C₆H₄OR₉, with the proviso that at least one of R₃-5 is not H; R₆ = C₇-37 alkyl, C₇-37 alkylene, or C₅-18 alkyl which is interrupted by 1 to 6 hetero atoms selected from the group consisting of O, S and N; R₇ = H or R₉; R₈ = H or C₁-4 alkyl; and R₉ = C₁-12 alkyl, C₂-12 alkylene, or C₃-12 alkyl which is interrupted by 1 to 6 hetero atoms selected from the group consisting of O, S and N) is

disclosed showing distinguished **liquid crystal** characteristics and suited for use in an electrooptical display device.

IC ICM C07D487-04

ICS C09K019-34; C07D487-04; C07D209-00; C07D209-00

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 28, 75

ST diketopyrrolopyrrole **liq crystal** electrooptical display device

IT **Liquid crystals**

(diketopyrrolopyrroles as)

IT **Liquid crystal** displays

(diketopyrrolopyrroles for)

IT 209338-99-8 209339-01-5 209339-03-7

209339-04-8

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(**liquid crystal** composition for electrooptical display devices)

IT 205104-10-5P 205104-11-6P 205104-12-7P

205104-13-8P 205104-14-9P 205104-15-0P

205104-16-1P 205104-17-2P 209338-47-6P

209338-48-7P 209338-49-8P 209338-50-1P

209338-52-3P 209338-53-4P 209338-54-5P

209338-55-6P 209338-56-7P 209338-58-9P

209338-59-0P 209338-60-3P 209338-61-4P

209338-63-6P 209338-64-7P 209338-65-8P

209338-66-9P 209338-67-0P 209338-69-2P

209338-70-5P 209338-71-6P 209338-72-7P

209338-73-8P 209338-74-9P 209338-75-0P

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209338-83-0P 209338-84-1P 209338-85-2P

209338-86-3P 209338-88-5P 209338-89-6P

209338-91-0P 209338-92-1P 209338-93-2P

209338-94-3P 209338-95-4P 209338-96-5P

209338-97-6P

RL: DEV (Device component use); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation and use in **liquid crystal** compns. for electrooptical display devices)

IT 209338-99-8 209339-01-5 209339-03-7

209339-04-8

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(**liquid crystal** composition for electrooptical display devices)

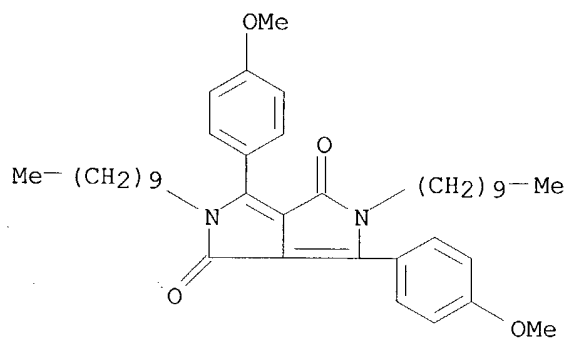
RN 209338-99-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didecyl-2,5-dihydro-3,6-bis(4-methoxyphenyl)-, mixt. with 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(octyloxy)phenyl]pyrrolo[3,4-c]pyrrole-1,4-dione (9CI) (CA INDEX NAME)

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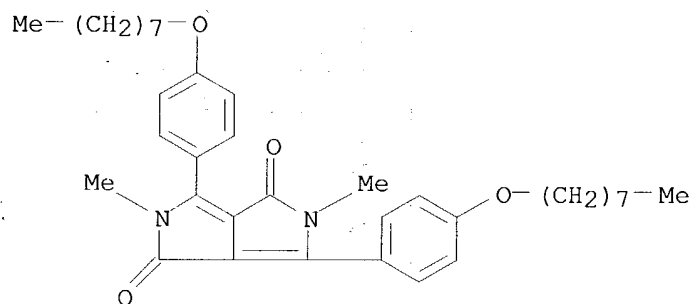
CRN 209338-98-7

CMF C40 H56 N2 O4



CM 2

CRN 205104-10-5
CMF C36 H48 N2 O4



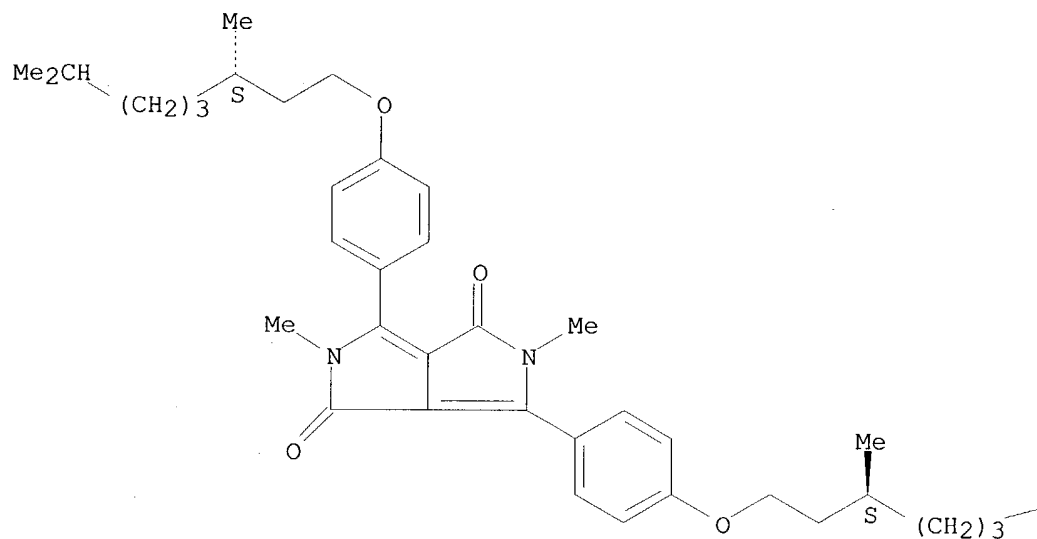
RN 209339-01-5 HCAPLUS
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-[[(3S)-3,7-dimethyloctyl]oxy]phenyl]-2,5-dihydro-2,5-dimethyl-, mixt. with 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(octyloxy)phenyl]pyrrolo[3,4-c]pyrrole-1,4-dione (9CI) (CA INDEX NAME)

CM 1

CRN 209339-00-4
CMF C40 H56 N2 O4

Absolute stereochemistry.

PAGE 1-A

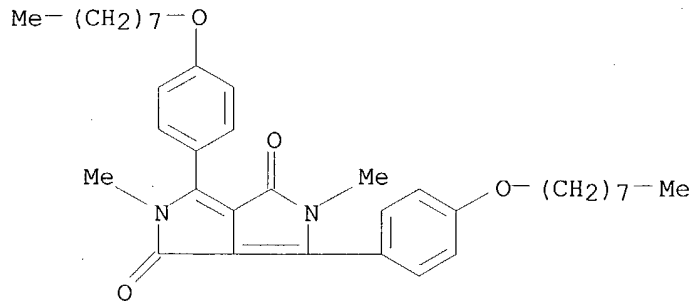


PAGE 1-B

CHMe₂

CM 2

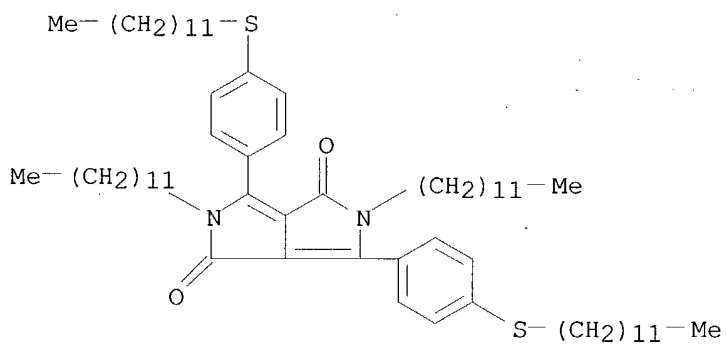
CRN 205104-10-5
CMF C36 H48 N2 O4



RN 209339-03-7 HCAPLUS
 CN Cyclohexanecarboxylic acid, 4-propyl-, 4-butoxyphenyl ester, trans-, mixt.
 with 2,5-didodecyl-3,6-bis[4-(dodecylthio)phenyl]-2,5-dihydropyrrolo[3,4-
 c]pyrrole-1,4-dione (9CI) (CA INDEX NAME)

CM 1

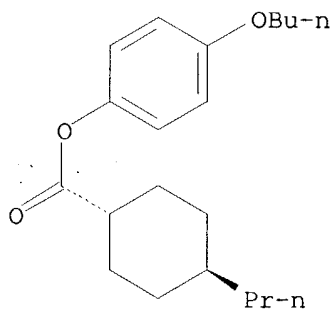
CRN 209338-60-3
 CMF C66 H108 N2 O2 S2



CM 2

CRN 67589-41-7
 CMF C20 H30 O3

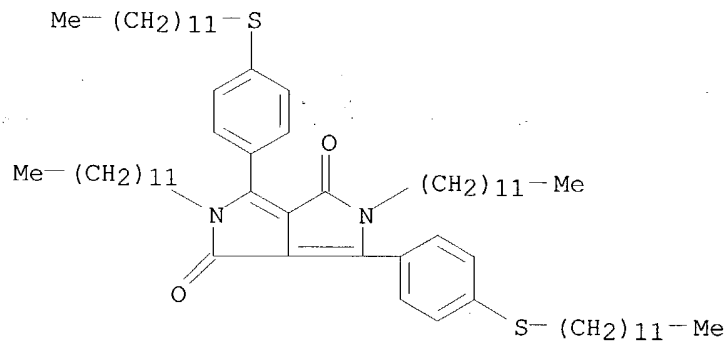
Relative stereochemistry.



RN 209339-04-8 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didodecyl-3,6-bis[4-(dodecylthio)phenyl]-2,5-dihydro-, mixt. with [N(E)]-4-butyl-N-[(4-methoxyphenyl)methylene]benzenamine (9CI) (CA INDEX NAME)

CM 1

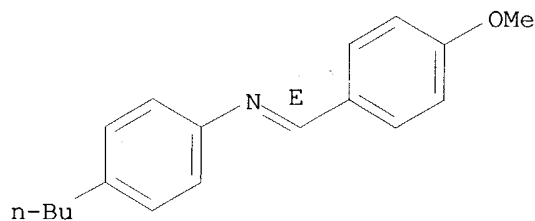
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 CMF C66 H108 N2 O2 S2



CM 2

CRN 97402-82-9
 CMF C18 H21 N O

Double bond geometry as shown.



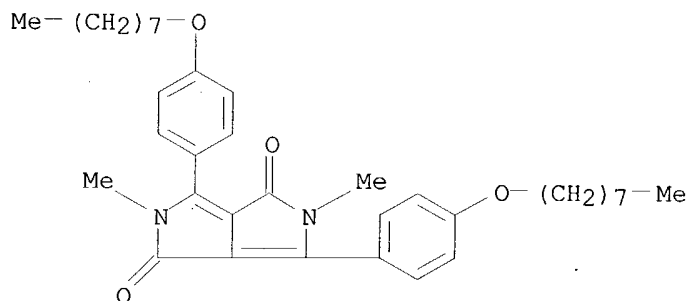
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 205104-13-8P 205104-14-9P 205104-15-0P
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209338-91-0P 209338-92-1P 209338-93-2P
209338-94-3P 209338-95-4P 209338-96-5P
209338-97-6P

RL: DEV (Device component use); SPN (Synthetic preparation); TEM
(Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation and use in **liquid crystal** compns. for
electrooptical display devices)

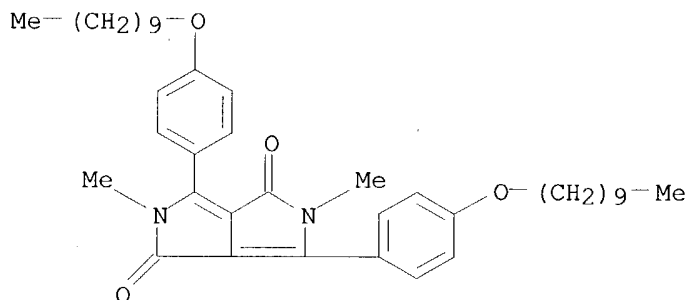
RN 205104-10-5 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(octyloxy)phenyl]- (9CI) (CA INDEX NAME)



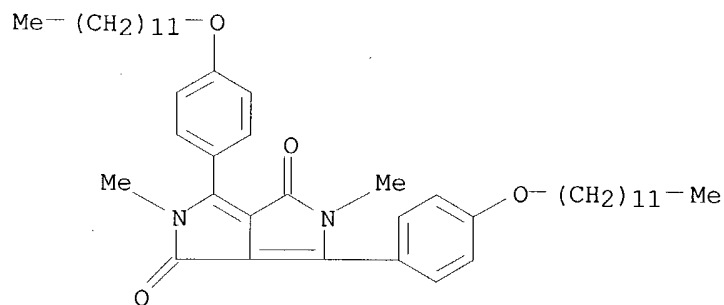
RN 205104-11-6 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(decyloxy)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



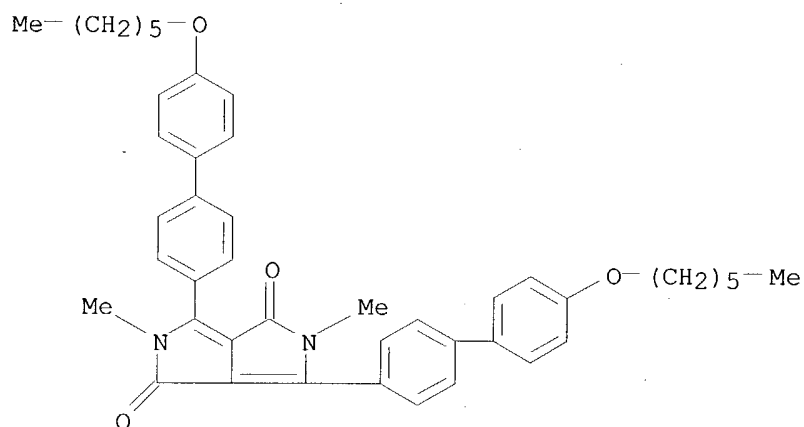
RN 205104-12-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(dodecyloxy)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



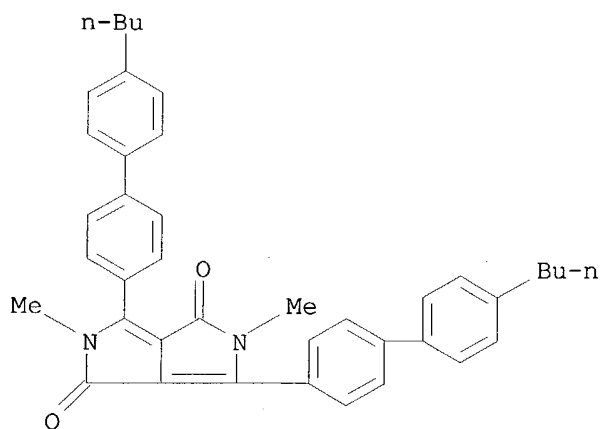
RN 205104-13-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4'-(hexyloxy)[1,1'-biphenyl]-4-yl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



RN 205104-14-9 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis(4'-butyl[1,1'-biphenyl]-4-yl)-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)

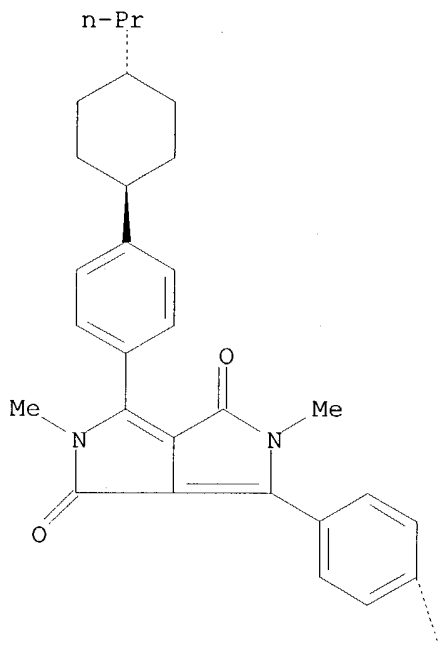


RN 205104-15-0 HCAPLUS

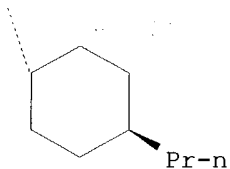
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(trans-4-propylcyclohexyl)phenyl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



PAGE 2-A

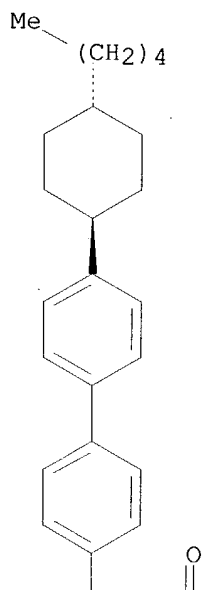


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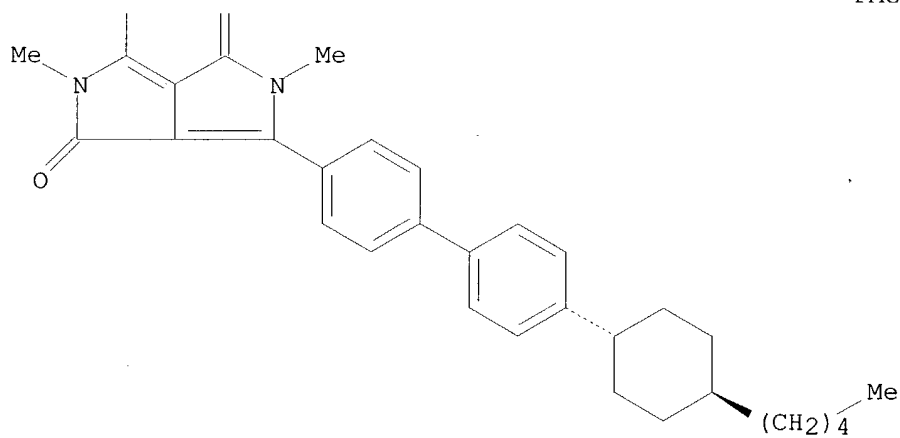
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4'-(trans-4-pentylcyclohexyl)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



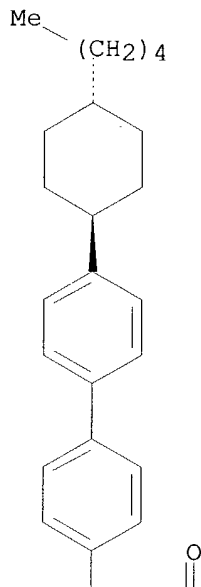
PAGE 2-A



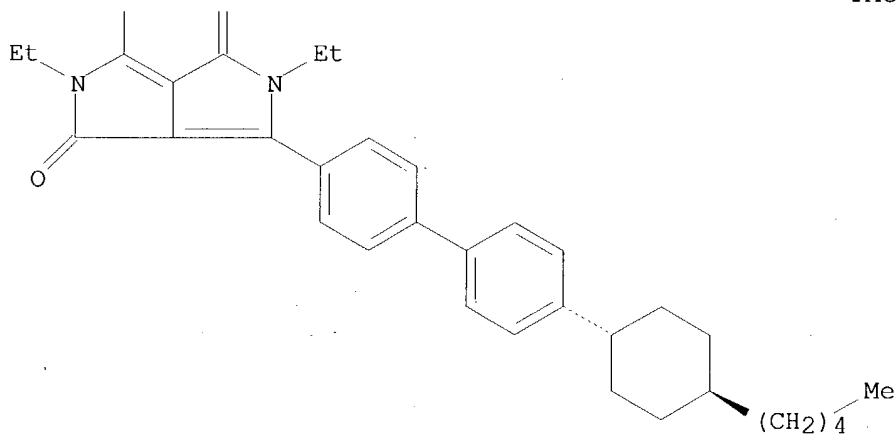
RN 205104-17-2 HCAPLUS
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-diethyl-2,5-dihydro-3,6-bis[4'-(trans-4-pentylcyclohexyl)][1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

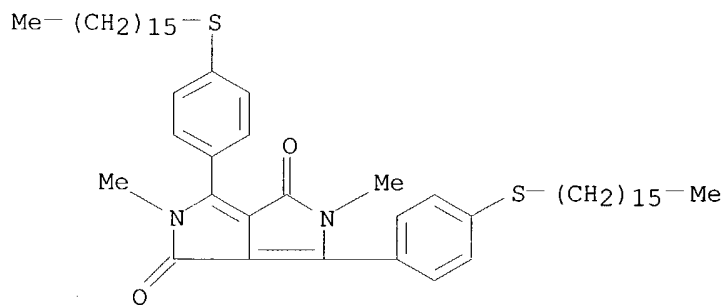
PAGE 1-A



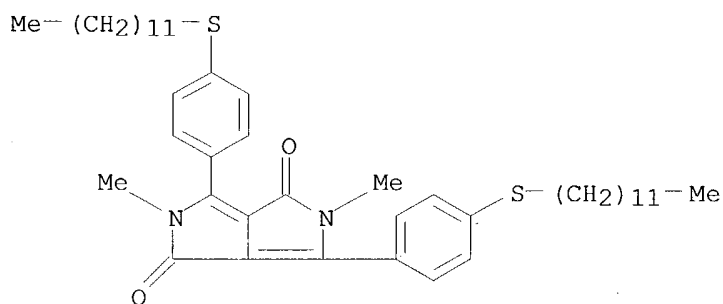
PAGE 2-A



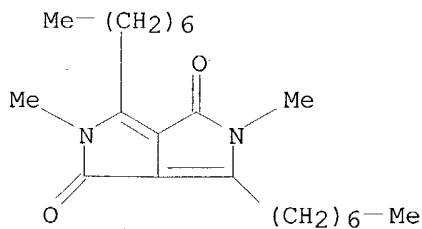
RN 209338-47-6 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(hexadecylthio)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



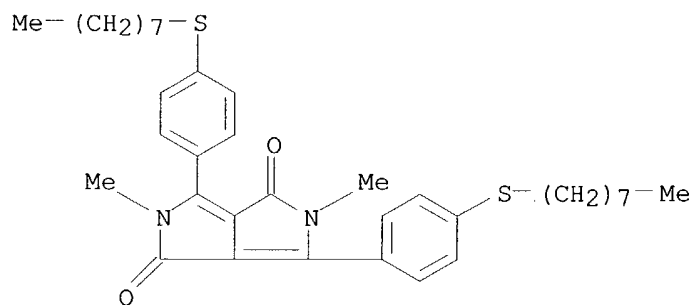
RN 209338-48-7 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(dodecylthio)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



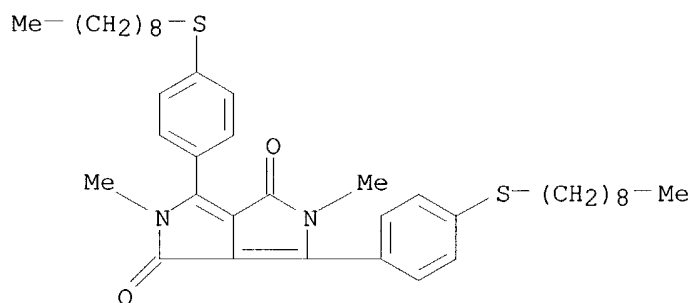
RN 209338-49-8 HCAPLUS
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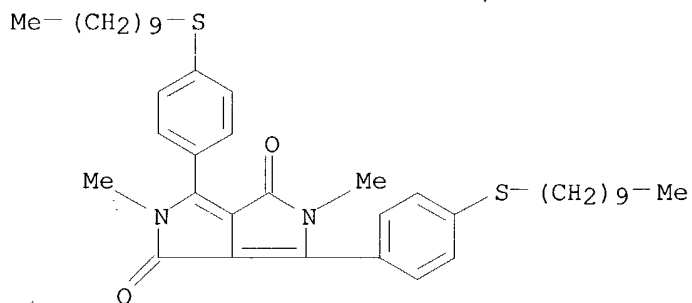
RN 209338-50-1 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(octylthio)phenyl]- (9CI) (CA INDEX NAME)



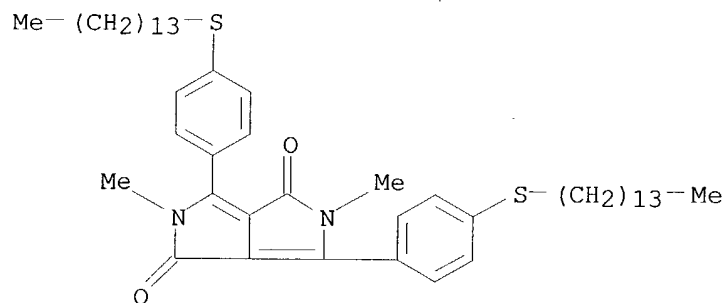
RN 209338-52-3 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(nonylthio)phenyl]- (9CI) (CA INDEX NAME)



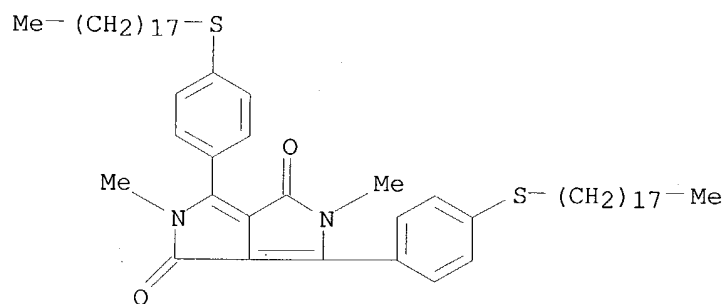
RN 209338-53-4 HCAPLUS
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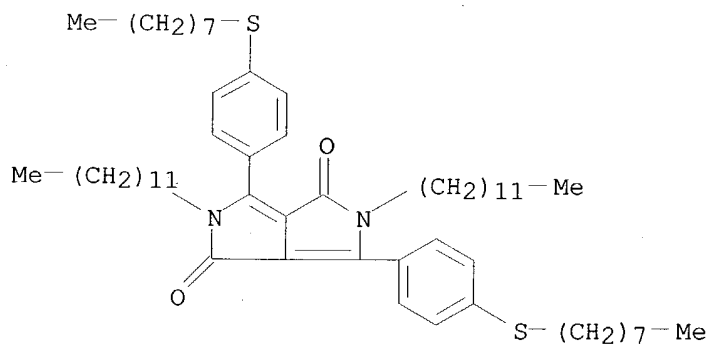
RN 209338-54-5 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(tetradecylthio)phenyl]- (9CI) (CA INDEX NAME)



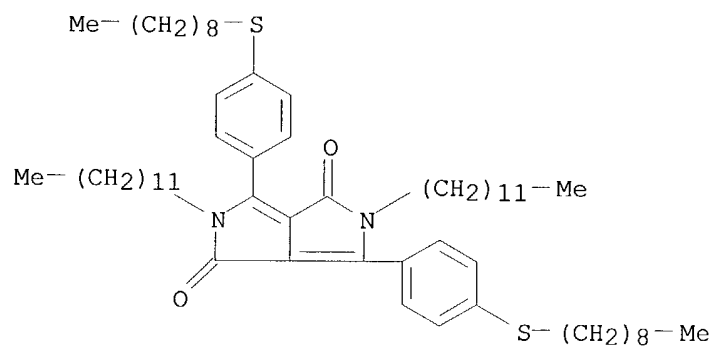
RN 209338-55-6 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(octadecylthio)phenyl]- (9CI) (CA INDEX NAME)



RN 209338-56-7 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didodecyl-2,5-dihydro-3,6-bis[4-(octylthio)phenyl]- (9CI) (CA INDEX NAME)

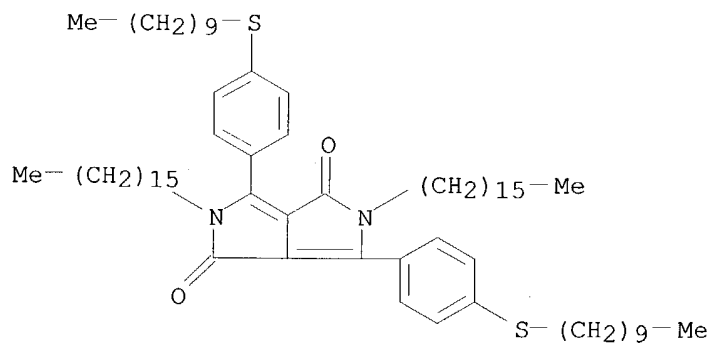


RN 209338-58-9 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didodecyl-2,5-dihydro-3,6-bis[4-(nonylthio)phenyl]- (9CI) (CA INDEX NAME)



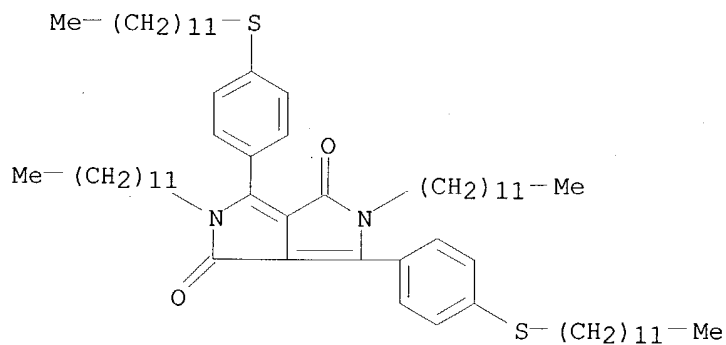
RN 209338-59-0 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(decylthio)phenyl]-2,5-dihexadecyl-2,5-dihydro- (9CI) (CA INDEX NAME)



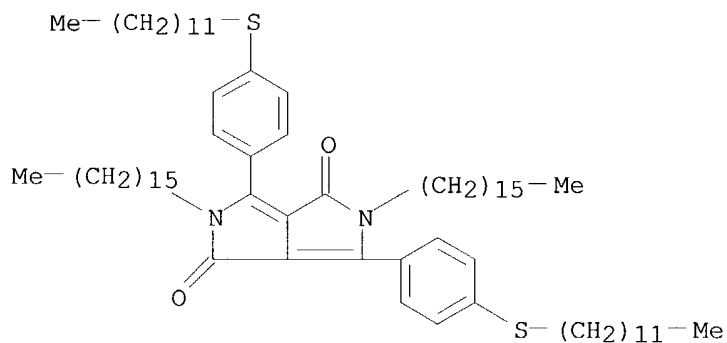
RN 209338-60-3 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didodecyl-3,6-bis[4-(dodecylthio)phenyl]-2,5-dihydro- (9CI) (CA INDEX NAME)



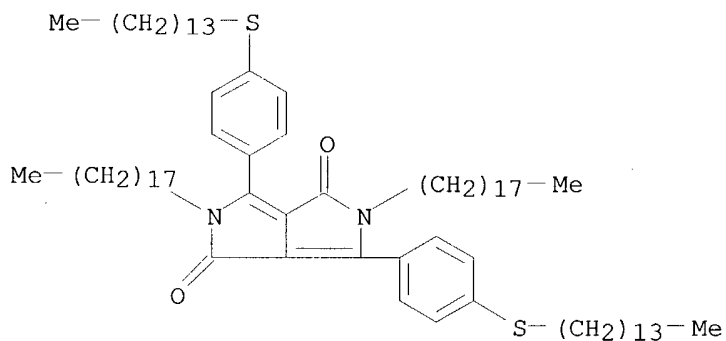
RN 209338-61-4 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(dodecylthio)phenyl]-2,5-dihexadecyl-2,5-dihydro- (9CI) (CA INDEX NAME)



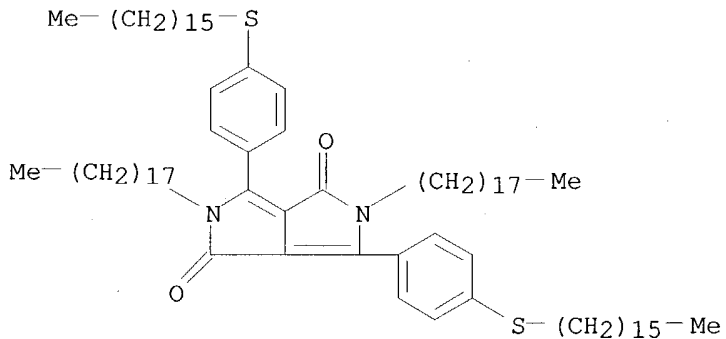
RN 209338-63-6 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-di(11-methylundecylthio)-3,6-bis[4-(15-methylpentadecylthio)phenyl]- (9CI) (CA INDEX NAME)



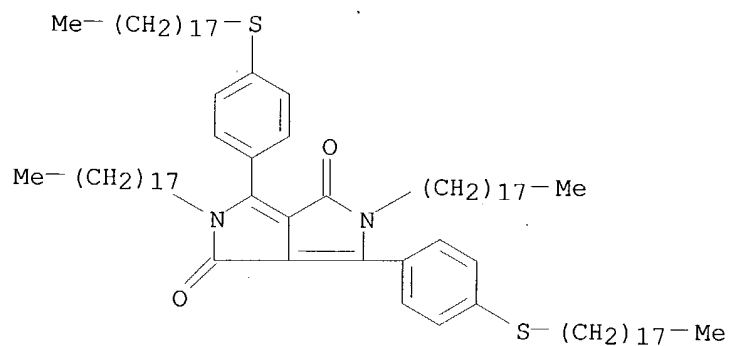
RN 209338-64-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(13-methyltridecylthio)phenyl]-2,5-dihydro-2,5-di(17-methylheptadecylthio)- (9CI) (CA INDEX NAME)



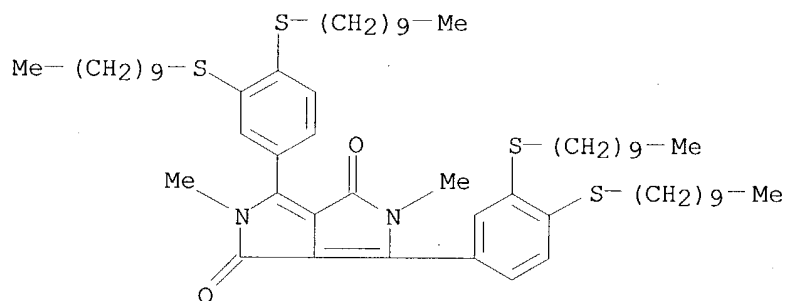
RN 209338-65-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-di(15-methylpentadecylthio)-3,6-bis[4-(17-methylheptadecylthio)phenyl]- (9CI) (CA INDEX NAME)



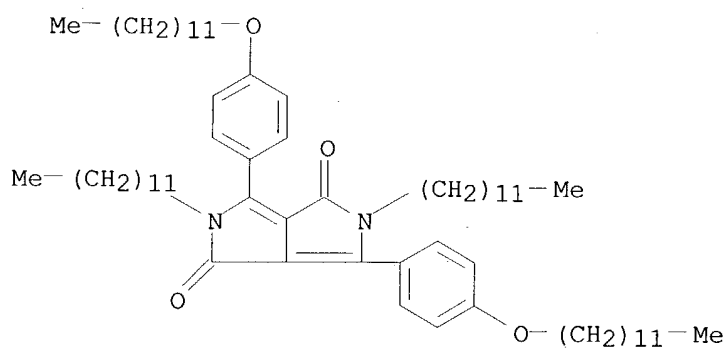
RN 209338-66-9 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[3,4-bis(decylthio)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



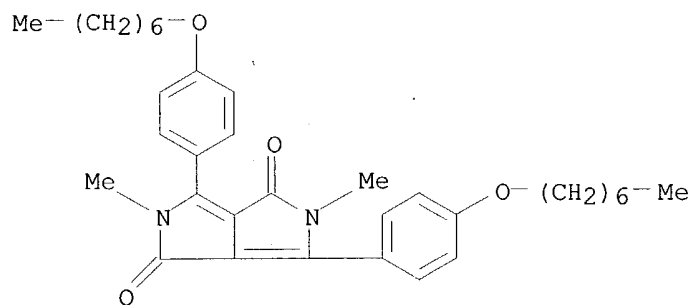
RN 209338-67-0 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didodecyl-3,6-bis[4-(dodecyloxy)phenyl]-2,5-dihydro- (9CI) (CA INDEX NAME)

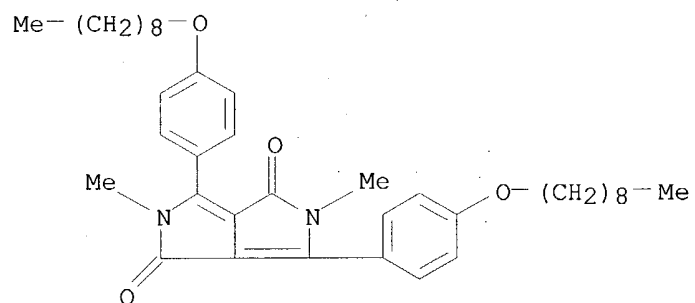


RN 209338-69-2 HCAPLUS

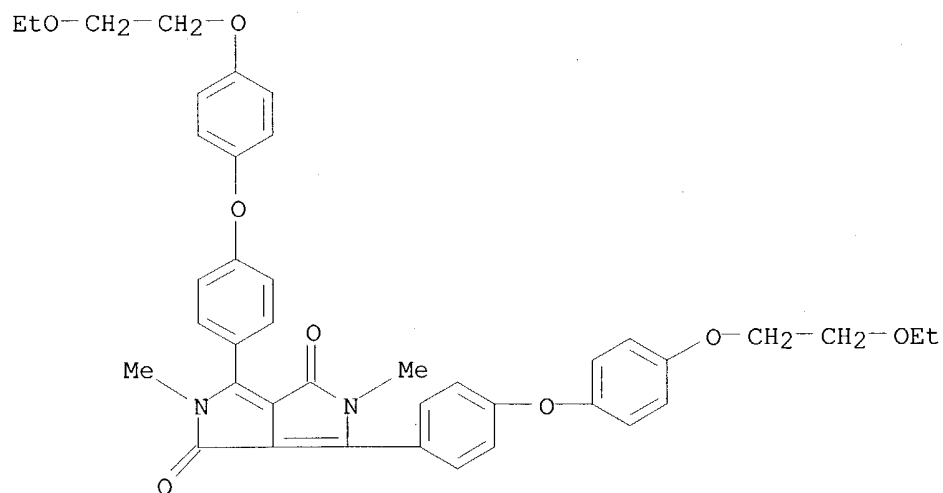
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(heptyloxy)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



RN 209338-70-5 HCAPLUS
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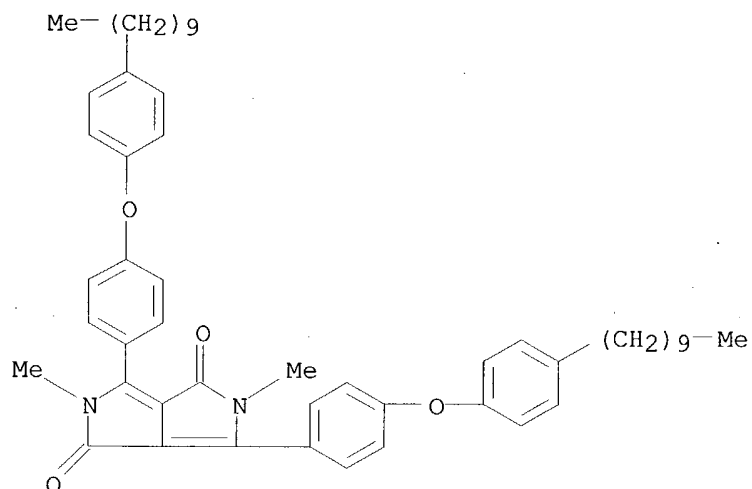


RN 209338-71-6 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-[4-(2-ethoxyethoxy)phenoxy]phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



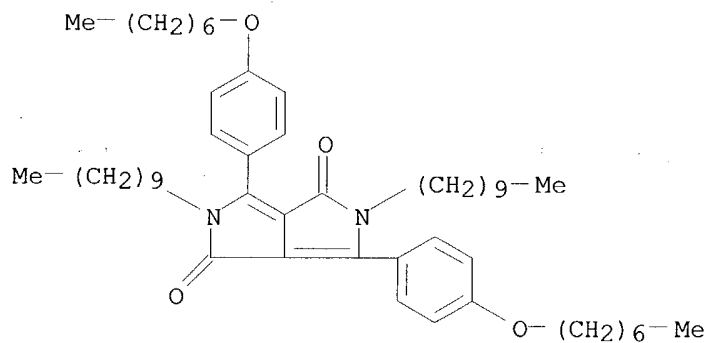
RN 209338-72-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(4-decylphenoxy)phenyl]-2,5-dihydro- (9CI) (CA INDEX NAME)



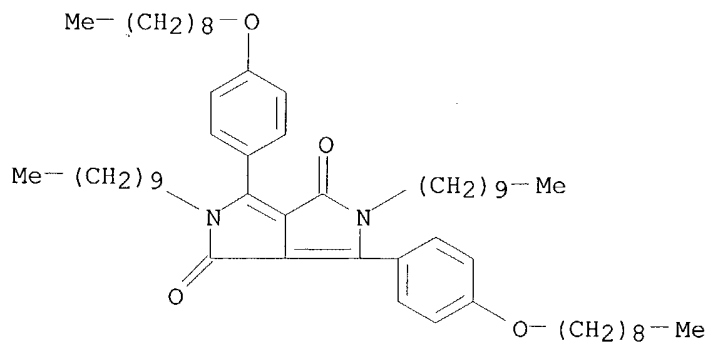
RN 209338-73-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didecyl-3,6-bis[4-(heptyloxy)phenyl]-2,5-dihydro- (9CI) (CA INDEX NAME)

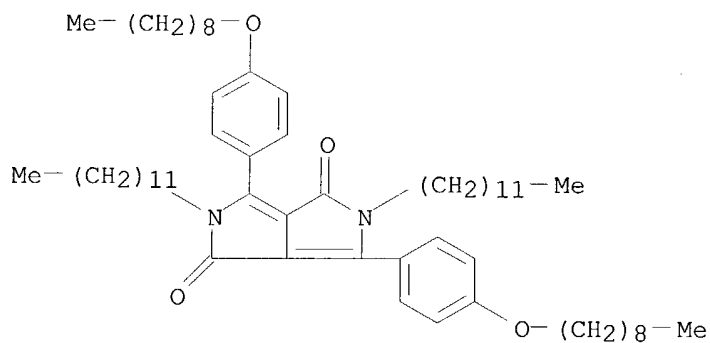


RN 209338-74-9 HCAPLUS

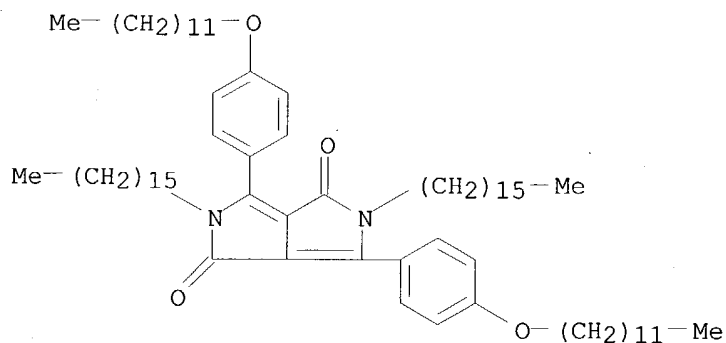
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didecyl-2,5-dihydro-3,6-bis[4-(nonyloxy)phenyl]- (9CI) (CA INDEX NAME)



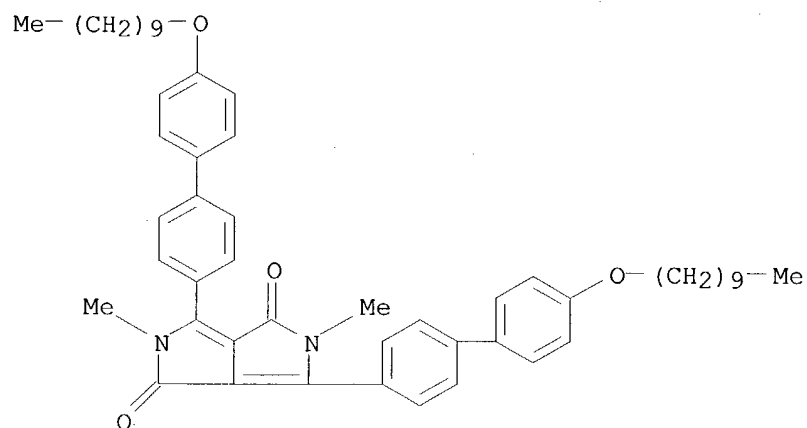
RN 209338-75-0 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-didodecyl-2,5-dihydro-3,6-bis[4-(nonyloxy)phenyl]- (9CI) (CA INDEX NAME)



RN 209338-77-2 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(dodecyloxy)phenyl]-2,5-dihexadecyl-2,5-dihydro- (9CI) (CA INDEX NAME)

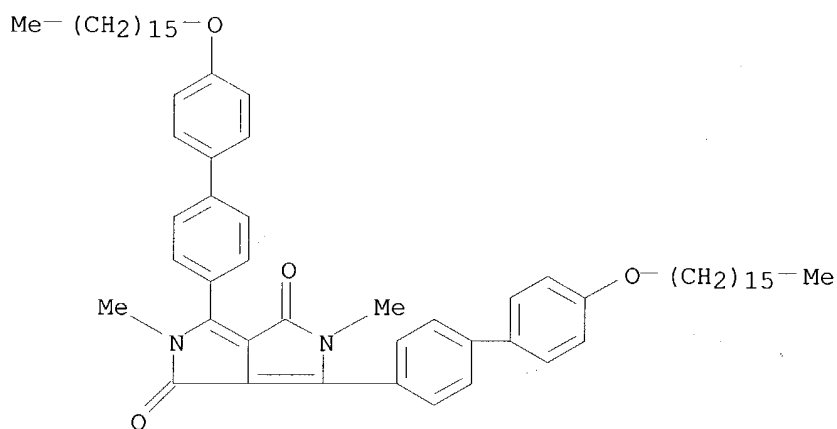


RN 209338-78-3 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4'-(decyloxy)[1,1'-biphenyl]-4-yl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



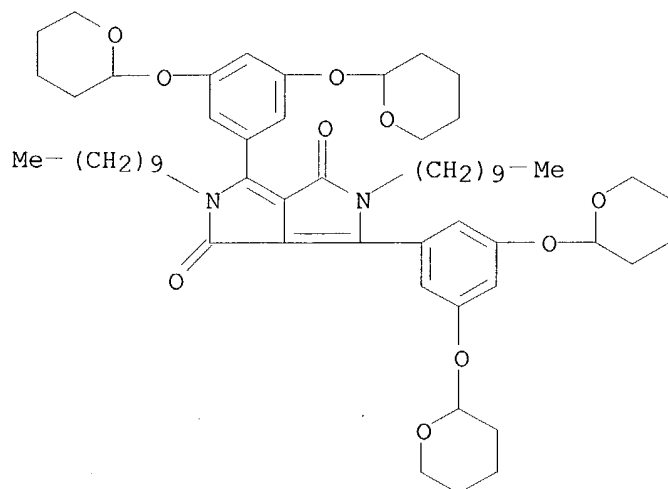
RN 209338-79-4 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4'-(hexadecyloxy)[1,1'-biphenyl]-4-yl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



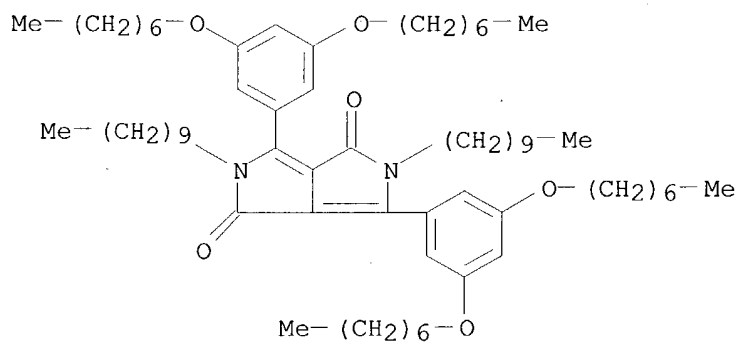
RN 209338-80-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[3,5-bis[(tetrahydro-2H-pyran-2-yl)oxy]phenyl]-2,5-didecyl-2,5-dihydro- (9CI) (CA INDEX NAME)



RN 209338-81-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[3,5-bis(heptyloxy)phenyl]-2,5-didecyl-2,5-dihydro- (9CI) (CA INDEX NAME)

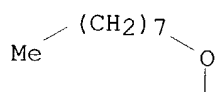


RN 209338-82-9 HCAPLUS

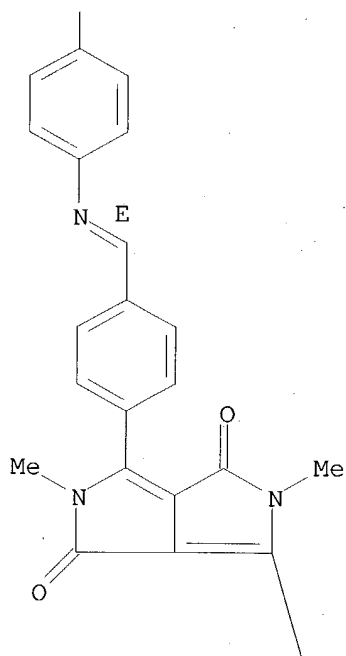
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-[(E)-[[4-(octyloxy)phenyl]imino]methyl]phenyl]- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

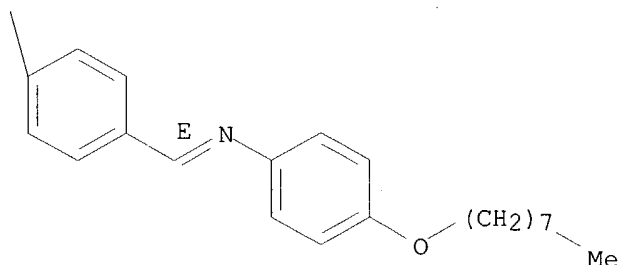
PAGE 1-A



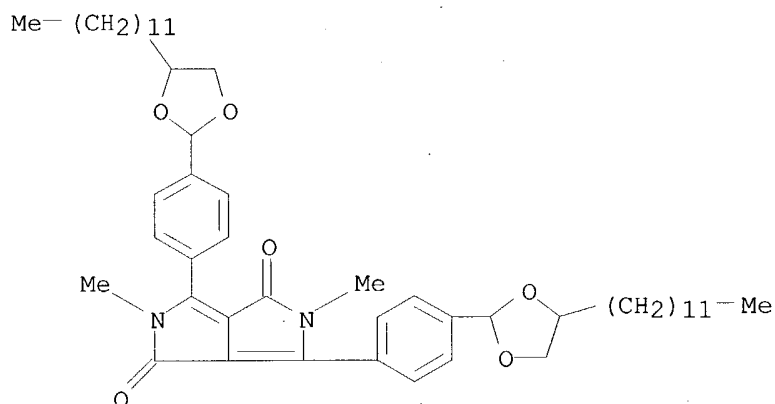
PAGE 2-A



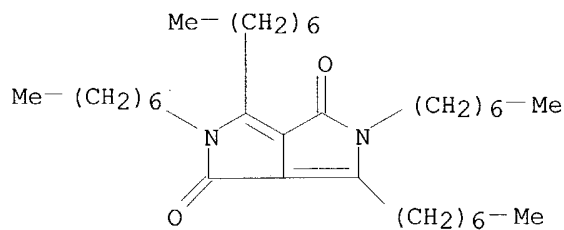
PAGE 3-A



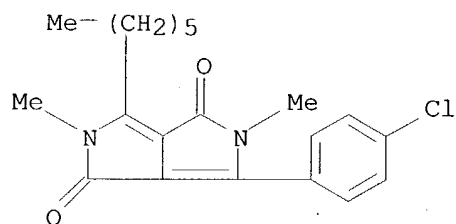
RN 209338-83-0 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(4-dodecyl-1,3-dioxolan-2-yl)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



RN 209338-84-1 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,3,5,6-tetraheptyl-2,5-dihydro- (9CI) (CA INDEX NAME)

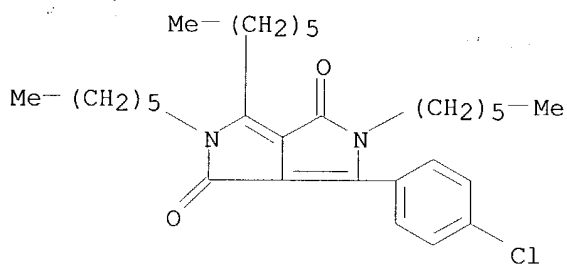


RN 209338-85-2 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3-(4-chlorophenyl)-6-hexyl-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



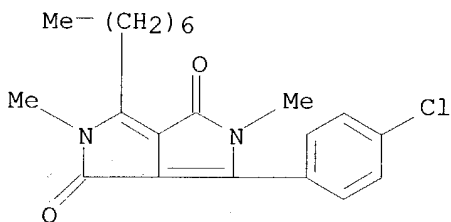
RN 209338-86-3 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3-(4-chlorophenyl)-2,5,6-trihexyl-2,5-dihydro- (9CI) (CA INDEX NAME)



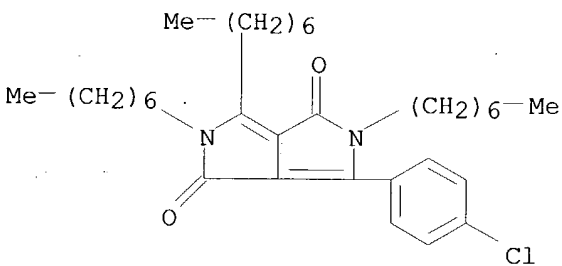
RN 209338-88-5 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3-(4-chlorophenyl)-6-heptyl-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



RN 209338-89-6 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3-(4-chlorophenyl)-2,5,6-triheptyl-2,5-dihydro- (9CI) (CA INDEX NAME)

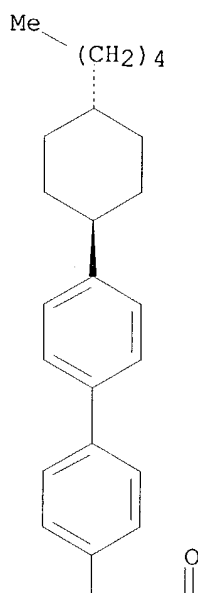


RN 209338-91-0 HCAPLUS

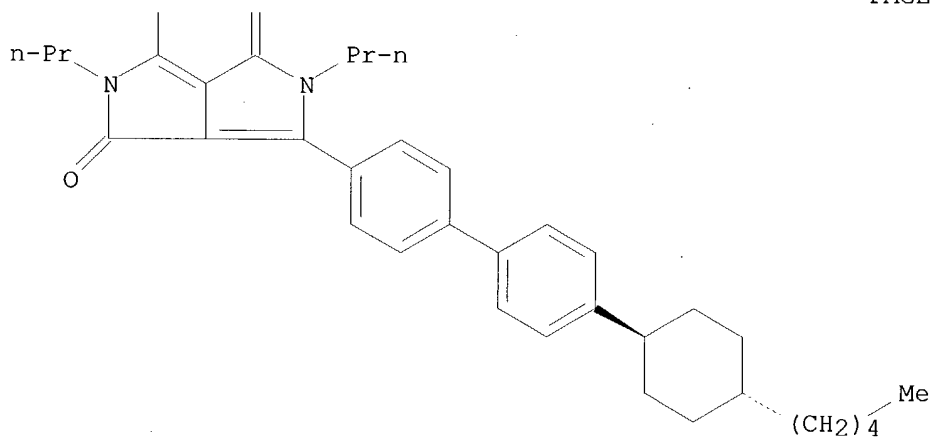
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-3,6-bis[4'-(trans-4-pentylcyclohexyl)[1,1'-biphenyl]-4-yl]-2,5-dipropyl- (9CI) (CA INDEX NAME)

Relative stereochemistry.

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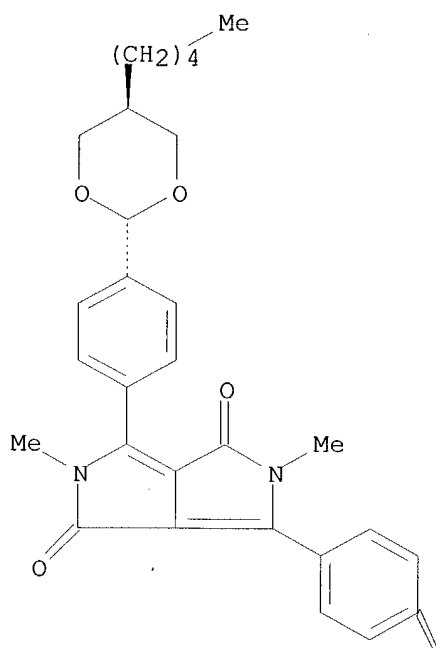


RN 209338-92-1 HCAPLUS

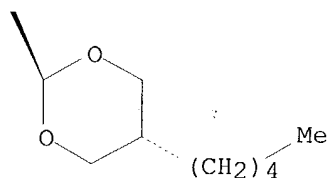
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(trans-5-pentyl-1,3-dioxan-2-yl)phenyl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

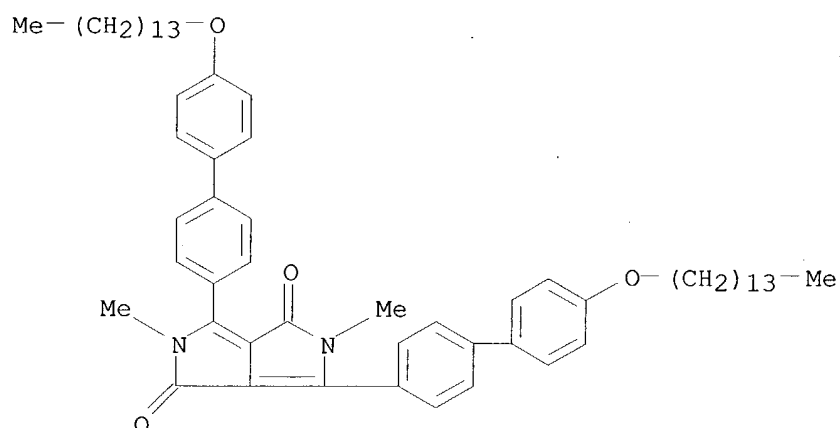
PAGE 1-A



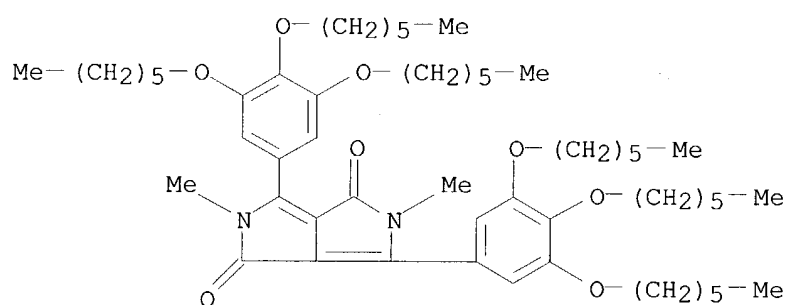
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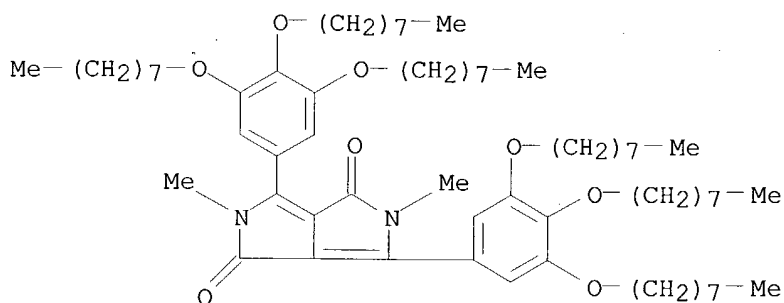
RN 209338-93-2 HCAPLUS
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4'-(tetradecyloxy)][1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)



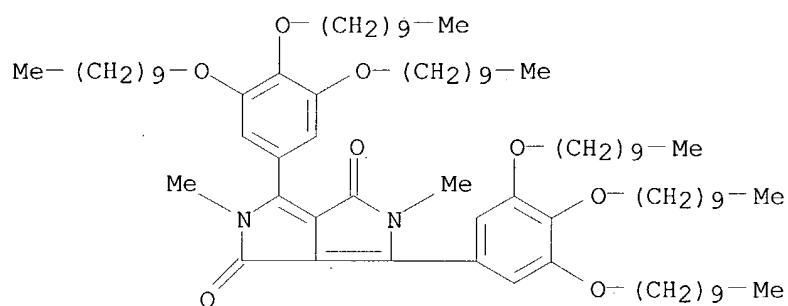
RN 209338-94-3 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[3,4,5-tris(hexyloxy)phenyl]- (9CI) (CA INDEX NAME)



RN 209338-95-4 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[3,4,5-tris(octyloxy)phenyl]- (9CI) (CA INDEX NAME)



RN 209338-96-5 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[3,4,5-tris(decyloxy)phenyl]- (9CI) (CA INDEX NAME)



RN 209338-97-6 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-diethyl-2,5-dihydro-3,6-bis[4'-(trans-4-pentylcyclohexyl)[1,1'-biphenyl]-4-yl]-, mixt. with 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(octyloxy)phenyl]pyrrolo[3,4-c]pyrrole-1,4-dione (9CI)
(CA INDEX NAME)

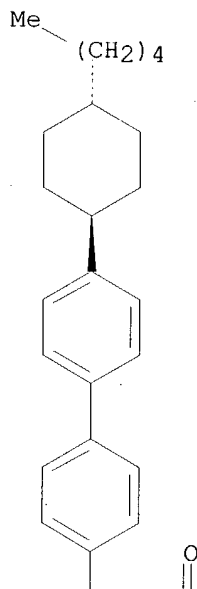
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CRN 205104-17-2

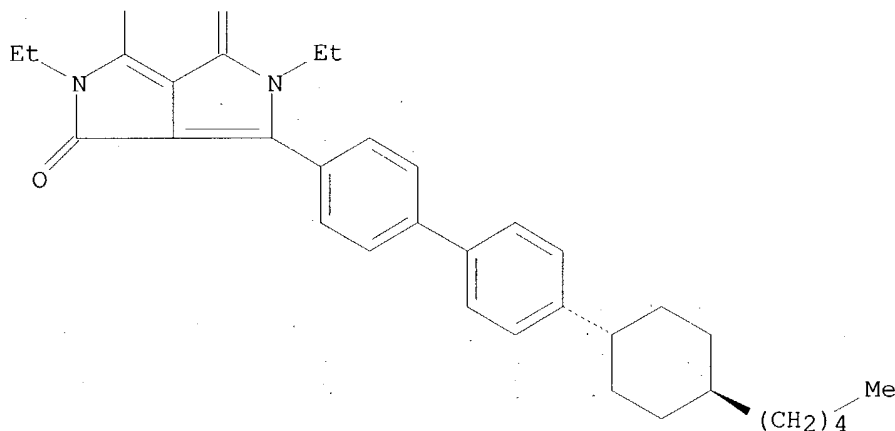
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Relative stereochemistry.

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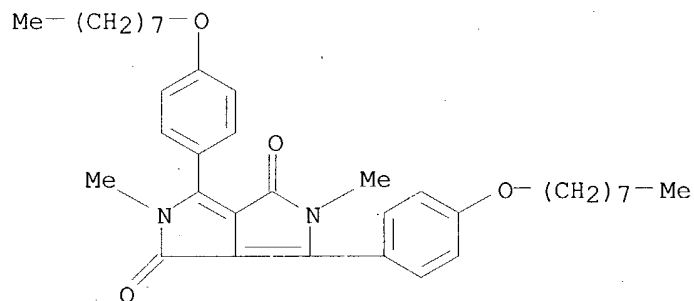


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CM 2

CRN 205104-10-5
CMF C36 H48 N2 O4



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 19 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:219038 HCAPLUS
DN 128:264287
TI **Liquid crystal** compounds. 110. 1,4-Diketopyrrolo[3,4-c]pyrrole: a novel core system for **liquid crystals**
AU Blunk, D.; Praefcke, K.; Jachmann, M.; Horn, M.
CS Institute of Organic Chemistry, Technische Universitat Berlin, Berlin, D-10623, Germany
SO Proceedings of SPIE-The International Society for Optical Engineering (1998), 3319(Liquid Crystals: Chemistry and Structure), 20-23
CODEN: PSISDG; ISSN: 0277-786X
PB SPIE-The International Society for Optical Engineering
DT Journal
LA English
AB The chromophoric biheterocycle 2,5-dihydropyrrolo[3,4-c]pyrrole-1,4-dione (DPPD) as a widely variable basic core structure was introduced into

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

liquid crystal research. The 1st eight calamitic examples of such thermomesomorphic derivs. are presented and discussed.

CC 75-11 (Crystallography and Liquid Crystals)
Section cross-reference(s): 28

ST liq crystal ketopyrrolopyrrole; pyrrolopyrroledione
liq crystal

IT Liquid crystals
(diketopyrrolopyrroles)

IT Phase transition enthalpy
(of diketopyrrolopyrrole liquid crystals)

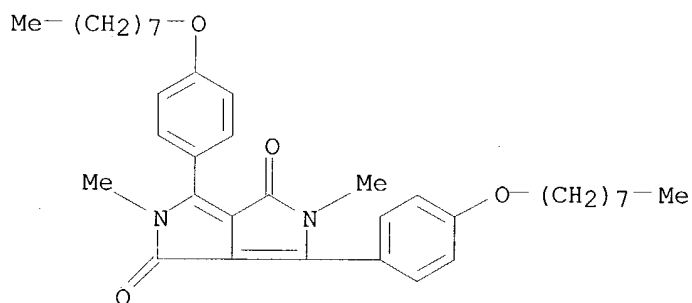
IT Liquid crystals
(transitions; of diketopyrrolopyrroles)

IT 205104-10-5 205104-11-6 205104-13-8
205104-14-9 205104-15-0 205104-16-1
205104-17-2
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(liquid crystal properties of)

IT 205104-10-5 205104-11-6 205104-13-8
205104-14-9 205104-15-0 205104-16-1
205104-17-2
RL: PEP (Physical, engineering or chemical process); PRP (Properties);
PROC (Process)
(liquid crystal properties of)

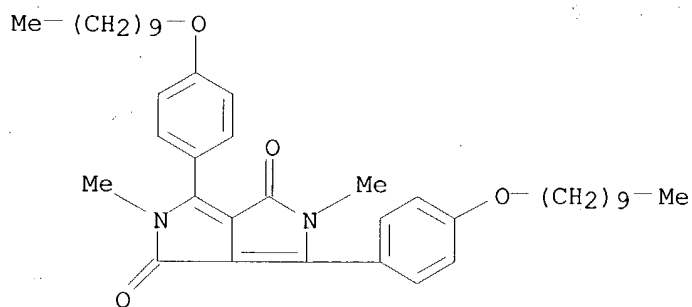
RN 205104-10-5 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(octyloxy)phenyl]- (9CI) (CA INDEX NAME)



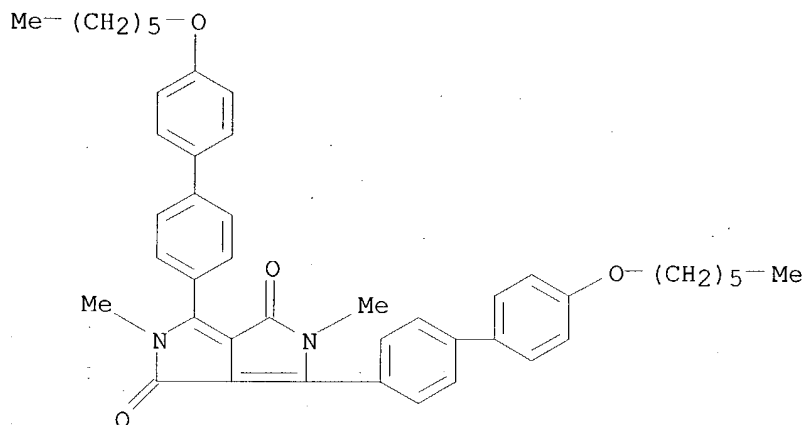
RN 205104-11-6 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(decyloxy)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



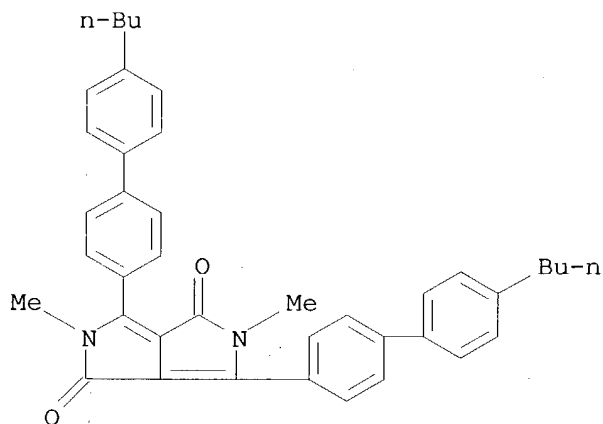
RN 205104-13-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4'-(hexyloxy)[1,1'-biphenyl]-4-yl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



RN 205104-14-9 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis(4'-butyl[1,1'-biphenyl]-4-yl)-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)

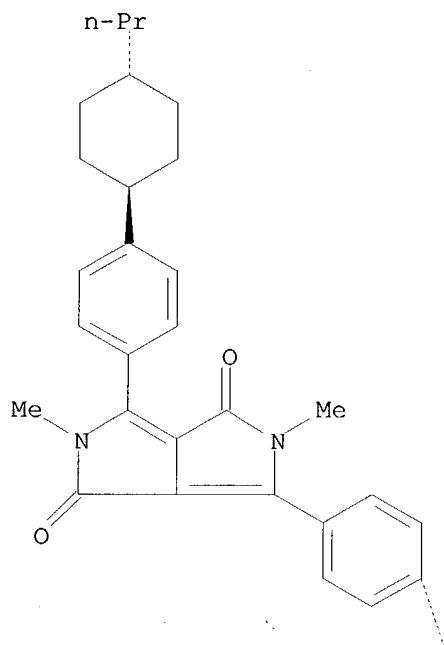


RN 205104-15-0 HCAPLUS

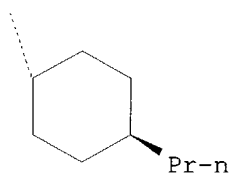
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(trans-4-propylcyclohexyl)phenyl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



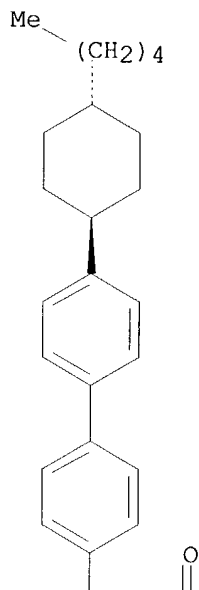
PAGE 2-A



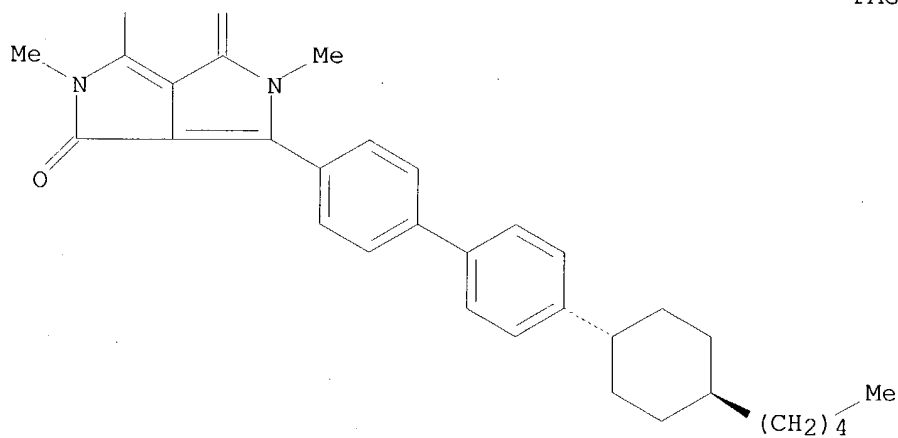
RN 205104-16-1 HCAPLUS
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4'-(trans-4-pentylcyclohexyl)][1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



PAGE 2-A

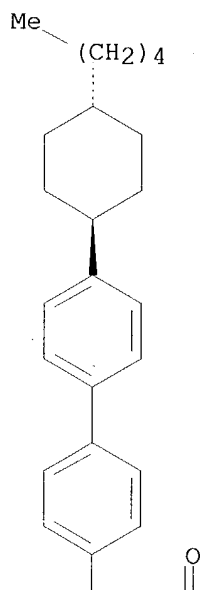


RN 205104-17-2 HCAPLUS

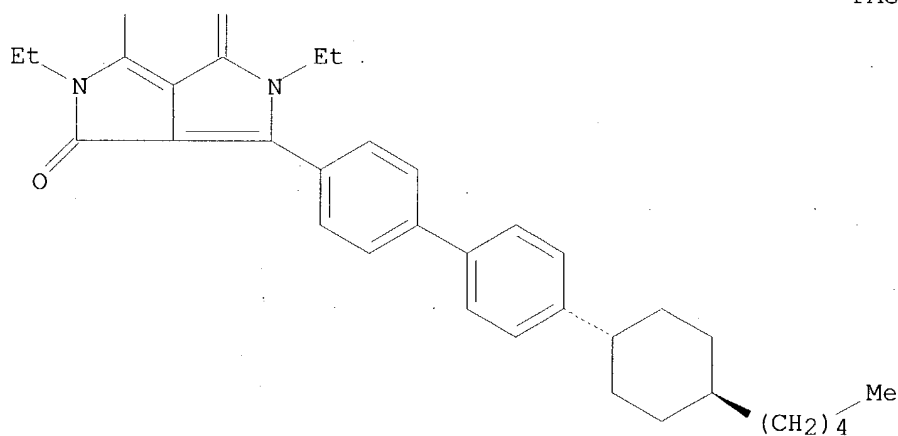
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-diethyl-2,5-dihydro-3,6-bis[4'-(trans-4-pentylcyclohexyl)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



PAGE 2-A

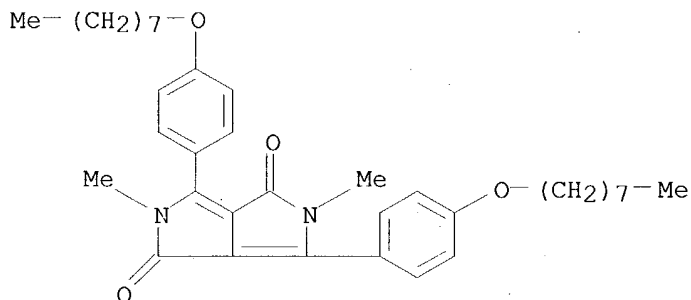


RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

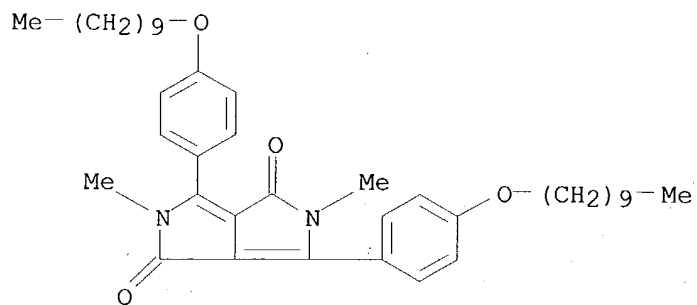
L17 ANSWER 20 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1998:166496 HCAPLUS
DN 128:250993
TI Novel family of **liquid crystals** based on a known
biheterocyclic pigment material: mesomorphic derivatives of
2,5-dihydropyrrolo[3,4-c]pyrrole-1,4-dione

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505

AU Praefcke, Klaus; Jachmann, Markus; Blunk, Dirk; Horn, Matthias
 CS Institute of Organic Chemistry, Technische Universitaet Berlin, Berlin,
 D-10623, Germany
 SO Liquid Crystals (1998), 24(1), 153-156
 CODEN: LICRE6; ISSN: 0267-8292
 PB Taylor & Francis Ltd.
 DT Journal
 LA English
 AB The chromophoric biheterocycle 2,5-dihydropyrrolo[3,4-c]pyrrole-1,4-dione
 (DPPD) as a widely variable basic core structure was introduced into
liquid crystal research and the 1st eight calamitic
 examples of thermomesomorphic derivs. are presented and discussed.
 CC 75-11 (Crystallography and Liquid Crystals)
 Section cross-reference(s): 28
 ST **liq crystal** pyrrolopyrroledione deriv
 IT **Liquid crystals**
 (preparation and properties of di-substituted dihydropyrrolopyrroledione
 compds.)
 IT **Liquid crystals**
 (transitions; of di-substituted dihydropyrrolopyrroledione compds.)
 IT 205104-10-5P 205104-11-6P 205104-12-7P
 205104-13-8P 205104-14-9P 205104-15-0P
 205104-16-1P 205104-17-2P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN
 (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and **liquid crystal** properties of)
 IT 205104-10-5P 205104-11-6P 205104-12-7P
 205104-13-8P 205104-14-9P 205104-15-0P
 205104-16-1P 205104-17-2P
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN
 (Synthetic preparation); PREP (Preparation); PROC (Process)
 (preparation and **liquid crystal** properties of)
 RN 205104-10-5 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-
 (octyloxy)phenyl]- (9CI) (CA INDEX NAME)

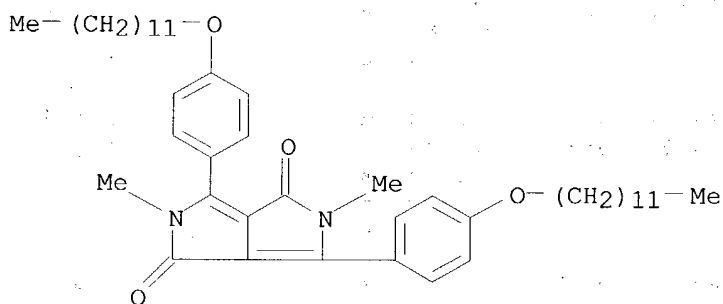


RN 205104-11-6 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(decyloxy)phenyl]-2,5-dihydro-
 2,5-dimethyl- (9CI) (CA INDEX NAME)



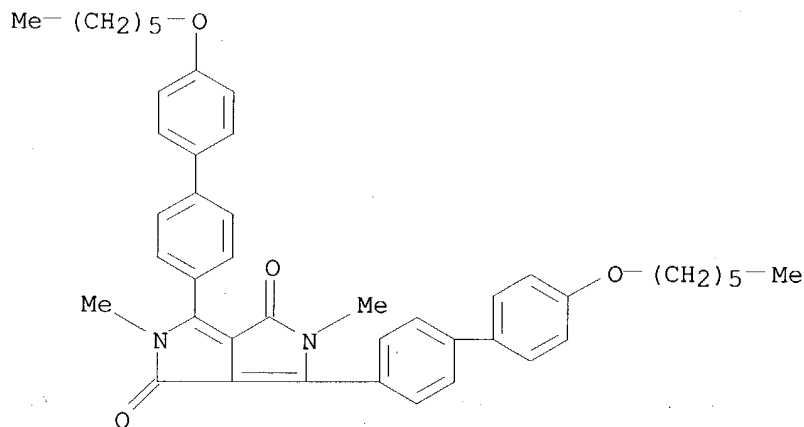
RN 205104-12-7 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4-(dodecyloxy)phenyl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



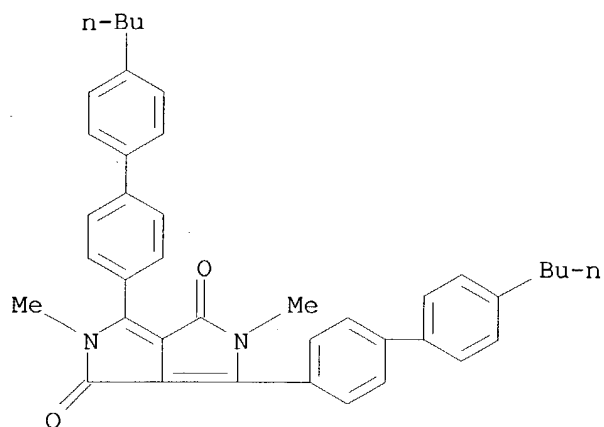
RN 205104-13-8 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis[4'-(hexyloxy)[1,1'-biphenyl]-4-yl]-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)



RN 205104-14-9 HCAPLUS

CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 3,6-bis(4'-butyl[1,1'-biphenyl]-4-yl)-2,5-dihydro-2,5-dimethyl- (9CI) (CA INDEX NAME)

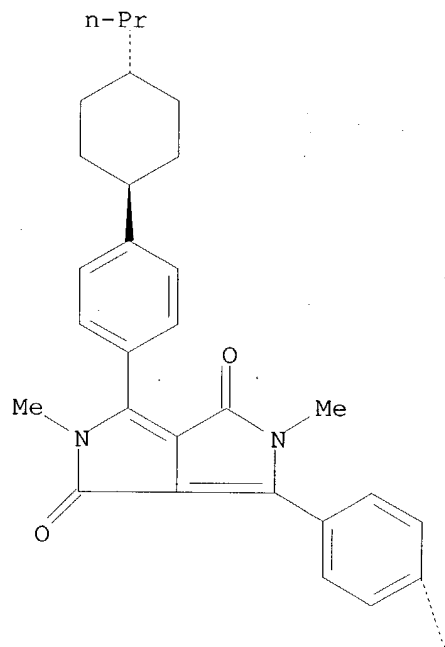


RN 205104-15-0 HCAPLUS

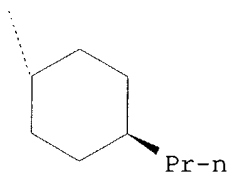
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4-(trans-4-propylcyclohexyl)phenyl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



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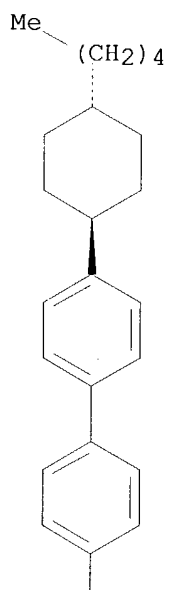


RN 205104-16-1 HCAPLUS

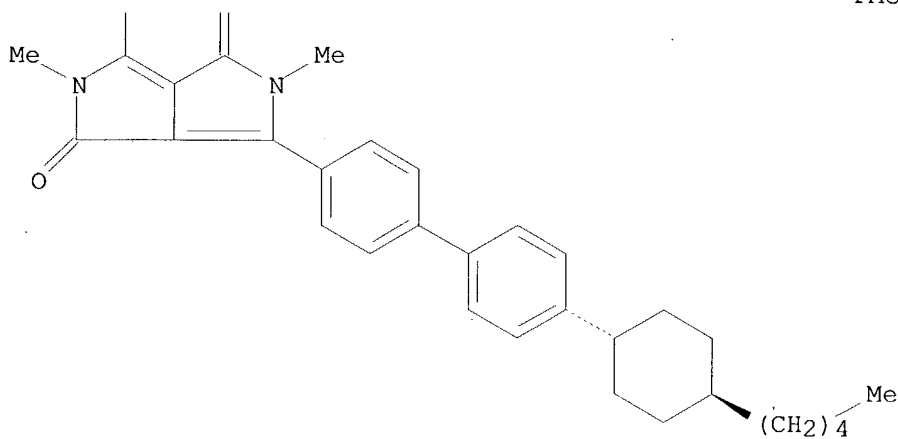
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-2,5-dimethyl-3,6-bis[4'-(trans-4-pentylcyclohexyl)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



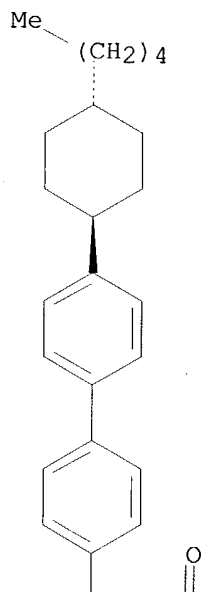
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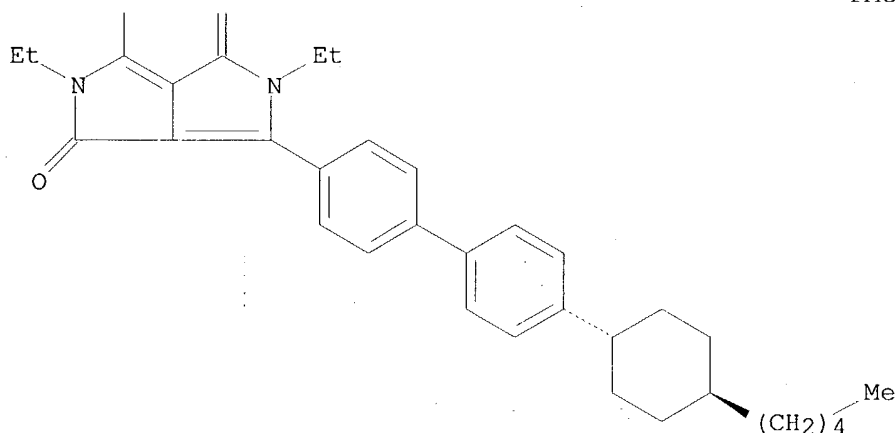
RN 205104-17-2 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-diethyl-2,5-dihydro-3,6-bis[4'-(trans-4-pentylcyclohexyl)[1,1'-biphenyl]-4-yl]- (9CI) (CA INDEX NAME)

Relative stereochemistry.

PAGE 1-A



PAGE 2-A



RE.CNT 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L17 ANSWER 21 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
AN 1996:748610 HCAPLUS
DN 126:20140
TI Structured pigment coating and its manufacture and use
IN Zambounis, John; Hofmann, Manfred
PA Ciba-Geigy A.-G., Switz.
SO Eur. Pat. Appl., 32 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 2

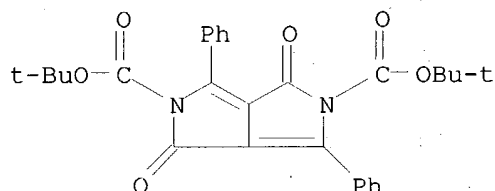
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 742556	A1	19961113	EP 1996-810278	19960501
	EP 742556	B1	20021002		
	R: CH, DE, FR, GB, IT, LI, NL, SE				
	TW 472072	B	20020111	TW 1996-85103597	19960326
	TW 505647	B	20021011	TW 1996-85105241	19960502
	US 5840449	A	19981124	US 1996-643723	19960506
	CA 2176290	AA	19961113	CA 1996-2176290	19960510
	JP 09003362	A2	19970107	JP 1996-116268	19960510
	CN 1150166	A	19970521	CN 1996-110346	19960511
	CN 1085710	B	20020529		
	CN 1312339	A	20010912	CN 2000-137052	20001228
PRAI	CH 1995-1394	A	19950512		

OS MARPAT 126:20140

AB Latent forms of pigments containing protected NH groups or phthalocyanines are applied in solution or melt form to a substrate and the protective groups are removed to provide the pigments as coatings on the substrate. The protective groups may be removed by means of heat, laser, or acid/base vapor. The coating is faster than sublimation or crystallization methods and selectivity may be exercised in regard to surface application and color development. The pigments may have applications as **color filters** or in information storage. In an example, a dioxane solution of N,N'-bis(tert-butoxycarbonyl)-3,6-diphenyl-1,4-diketopyrrolo[3,4-c]pyrrole was applied to glass and heated to 200° to provide a

coating of 2,5-dihydro-3,6-diphenyl-1,4-diketopyrrolo[3,4-c]pyrrole of excellent transparency and homogeneity.

- IC ICM G11B007-24
ICS C09B069-08; D06P001-00
- CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 74
- IT **167093-32-5** 184234-11-5 184234-13-7 184234-15-9,
N,N'-Bis(neopentylloxycarbonyl)triphenodioxazine
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(application and development of latent pigment coatings)
- IT **167093-32-5**
RL: PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(application and development of latent pigment coatings)
- RN 167093-32-5 HCAPLUS
- CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 1,4-dioxo-3,6-diphenyl-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



- L17 ANSWER 22 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
- AN 1995:961624 HCAPLUS
- DN 124:30529
- TI Exploration of the Stille Coupling Reaction for the Synthesis of Functional Polymers
- AU Bao, Zhenan; Chan, Wai Kin; Yu, Luping
- CS Department of Chemistry, University of Chicago, Chicago, IL, 60637, USA
- SO Journal of the American Chemical Society (1995), 117(50), 12426-35
CODEN: JACSAT; ISSN: 0002-7863
- PB American Chemical Society
- DT Journal
- LA English
- AB The palladium-catalyzed Stille coupling reaction was used for preparing functionalized, conjugated polymers. This reaction has several advantages, two of which are that it requires mild reaction conditions and produces high yields. Several factors which affect the polymerization processes were investigated, such as the catalyst composition and concentration, different solvents and ligands, and structures of monomers. It was found that solvents that could keep the macromols. in solution and stabilize the palladium(0) catalyst would yield polymers with high mol. wts. If a Pd(II) compound was used as the catalyst, a stoichiometric adjustment of the distannyl monomer was necessary to enhance the mol. weight of the resulting polymer. In general, it is found that a combination of an electron-rich distannyl monomer and an electron-deficient dihalide (ditriflate) monomer forms polymers with relatively high mol. wts. To further demonstrate the versatility of the Stille reaction for polycondensations, different types

of conjugated polymers with different properties and applications, such as **liquid crystalline** conjugated polymers and conjugated photorefractive polymers, have been synthesized.

CC 35-5 (Chemistry of Synthetic High Polymers)

Section cross-reference(s): 36, 75, 76

ST palladium catalyst ligand exchange Stille coupling; solvent Stille coupling polymer synthesis; conjugated thiophene polymer synthesis Stille coupling; polyphenylenevinylene synthesis Stille coupling; carbazole pendant conjugated polymer Stille coupling; porphyrin contg conjugated polymer Stille coupling; **liq cryst** polymer prepn Stille coupling

IT **Liquid crystals**, polymeric Polymerization

(Stille coupling for preparation of functional polymers)

IT 171569-28-1P **171569-29-2P** 171569-30-5P 171757-89-4P

RL: SPN (Synthetic preparation); PREP (Preparation)

(Stille coupling for preparation of functional polymers)

IT 145483-69-8P 146222-34-6P 171569-16-7P 171569-17-8P 171569-18-9P

171569-19-0P 171569-20-3P 171569-21-4P 171569-23-6P 171569-24-7P

171569-25-8P 171569-26-9P 171757-85-0P 171757-86-1P 171757-90-7P

171757-91-8P 172889-87-1P 307951-08-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(**liquid-crystalline**; Stille coupling for preparation of functional polymers)

IT **171569-29-2P**

RL: SPN (Synthetic preparation); PREP (Preparation)

(Stille coupling for preparation of functional polymers)

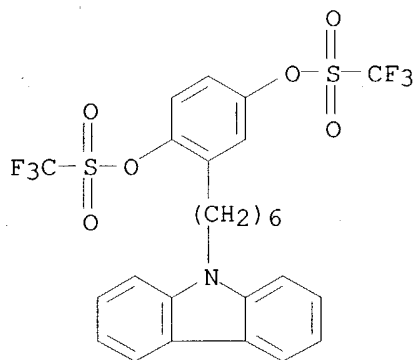
RN 171569-29-2 HCAPLUS

CN Methanesulfonic acid, trifluoro-, 2-[6-(9H-carbazol-9-yl)hexyl]-1,4-phenylene ester, polymer with (2,5-dihexyl-2,3,5,6-tetrahydro-3,6-dioxopyrrolo[3,4-c]pyrrole-1,4-diyl)di-4,1-phenylene bis(trifluoromethanesulfonate) and 2,5-thiophenediylbis[tributylstannane] (9CI) (CA INDEX NAME)

CM 1

CRN 171569-15-6

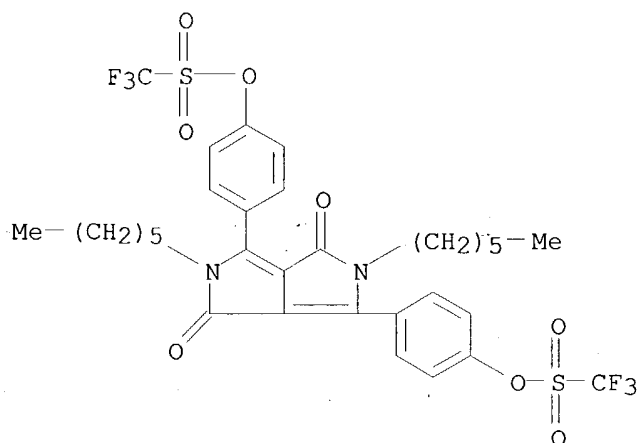
CMF C26 H23 F6 N O6 S2



CM 2

CRN 151426-38-9

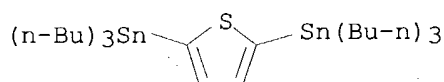
CMF C32 H34 F6 N2 O8 S2



CM 3

CRN 145483-63-2

CMF C28 H56 S Sn2



L17 ANSWER 23 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1995:787206 HCAPLUS

DN 123:183553

TI Compositions for making structured color images and application thereof.

IN Schaedeli, Ulrich; Zambounis, John S.; Iqbal, Abul; Hao, Zhimin; Dubas, Henri

PA Shell Internationale Research Maatschappij BV, Neth.

SO Eur. Pat. Appl., 56 pp.

CODEN: EPXXDW

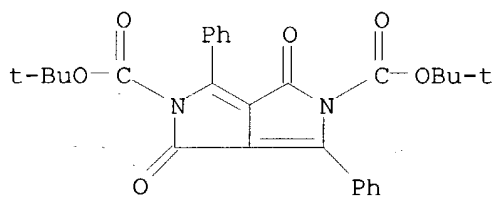
DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 654711	A1	19950524	EP 1994-810649	19941114
	EP 654711	B1	19990602		
	R: CH, DE, FR, GB, IT, LI				
	CA 2135657	AA	19950523	CA 1994-2135657	19941118
	US 5879855	A	19990309	US 1994-341721	19941118
	JP 08006242	A2	19960112	JP 1994-287689	19941122
	JP 3510927	B2	20040329		
	US 6040108	A	20000321	US 1998-204190	19981203
	US 6180315	B1	20010130	US 1999-458771	19991210
PRAI	EP 1993-810807	A	19931122		
	US 1994-341721	A3	19941118		

US 1998-204190 A3 19981203
 OS MARPAT 123:183553
 AB Compns. for making structured color images comprising (a) a soluble pigment precursor which can be transformed to an insol. pigment by chemical, thermal, photolytic or radiation-induced method, and (b) a binder polymer or prepolymer, or a pos. or neg. resist-type resin which can be structured by crosslinking, polymerization or depolymn. by applying heat or electromagnetic irradiation The compns. can be applied to optical and thermal recording, printing, and the production of **color filters** for **liquid crystal** displays, with high accuracy, high transparency and high stability.
 IC ICM G03F007-004
 ICS G03F007-105; G03C007-12
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
 ST pigment precursor photoimaging compn; thermal recording pigment precursor; **liq crystal** display **color filter**
 IT Optical imaging devices
 (electrooptical **liquid-crystal**, pigment precursor for photoimaging composition for **color filters**)
 IT 167020-22-6 167020-28-2 **167093-32-5** 167634-30-2
 167634-31-3
 RL: MOA (Modifier or additive use); USES (Uses)
 (pigment precursor for photoimaging composition)
 IT **167093-32-5**
 RL: MOA (Modifier or additive use); USES (Uses)
 (pigment precursor for photoimaging composition)
 RN 167093-32-5 HCAPLUS
 CN Pyrrolo[3,4-c]pyrrole-2,5(1H,4H)-dicarboxylic acid, 1,4-dioxo-3,6-diphenyl-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



L17 ANSWER 24 OF 24 HCAPLUS COPYRIGHT 2004 ACS on STN
 AN 1995:568877 HCAPLUS
 DN 122:314058
 TI Polarized Light Spectroscopy of Dihydropyrrolopyrroledione in **Liquids and Liquid Crystals: Molecular Conformation and Influence by an Anisotropic Environment**
 AU Edman, Peter; Johansson, Lennart B.-A.; Langhals, Heinz
 CS Department of Physical Chemistry, University of Umea, Umea, S-901 87, Swed.
 SO Journal of Physical Chemistry (1995), 99(21), 8504-9
 CODEN: JPCHAX; ISSN: 0022-3654
 PB American Chemical Society
 DT Journal
 LA English
 AB Different Ph derivs. of dihydropyrrolopyrrolediones (DPP) have been examined by means of polarized absorption and fluorescence spectroscopy. The derivs. were 3,6-bis(3,5-di-tert-butylphenyl)-2,5-dihydropyrrolo[3,4-

c]pyrrole-1,4-dione (BDPP), 3,6-bis(2-methoxyphenyl)-2,5-dimethylpyrrolo[3,4-c]pyrrole-1,4-dione (MMDPP), 3,6-bis(2-methoxyphenyl)-2-hydro-5-methylpyrrolo[3,4-c]pyrrole-1,4-dione (MHDPP) and 3,6-bis(2-methoxyphenyl)-2,5-dihydropyrrolo[3,4-c]pyrrole-1,4-dione (HHDPP). Intramol. hydrogen bonds can form between the DPP core and the Ph groups of MHDPP and HHDPP. The Stokes shift (ca. 10-70 nm) and the bandshape of absorption and fluorescence spectra depend strongly on possibilities of intramol. π -electronic overlapping of the DPP core and the Ph groups. Different conformations of the DPP and aryl planes are likely present. The rate of transfer between these conformations is rapid, which is supported by the monoexponential photophysics observed for all derivs. The lifetime varies between 5.5 and 9 ns in different liquid solvents, as well as in a lyotropic nematic **liquid crystal**. The fluorescence quantum yields and Forster radii are reported. The wavelength dependence of the limiting fluorescence excitation and emission anisotropies have been studied. Except from MMDPP and MHDPP, the S₀ \leftrightarrow S₁ bands constitute one direction of the transition dipoles corresponding to the same limiting anisotropy of $r_0 = 0.38$. Second rank order parameters of the ground and excited state were determined for the DPP derivs. solubilized in a macroscopically aligned lyotropic nematic **liquid crystal**. Taken together, the exptl. results suggest that the mol. symmetry of HHDPP is the same in the ground and the first excited states, contrary to the other derivs.

CC 22-9 (Physical Organic Chemistry)

ST fluorescence anisotropy dihydropyrrolopyrroledione; **liq crystal** fluorescence anisotropy dihydropyrrolopyrroledione

IT Fluorescence

(anisotropy; of dihydropyrrolopyrroledione in **liqs.** and **liquid crystals**)

IT Conformation and Conformers

Dichroism

Ultraviolet and visible spectra

(of dihydropyrrolopyrroledione in **liqs.** and **liquid crystals**)

IT Fluorescence

(excitation, anisotropy; of dihydropyrrolopyrroledione in **liqs.** and **liquid crystals**)

IT Hydrogen bond

(intramol., of dihydropyrrolopyrroledione in **liqs.** and **liquid crystals**)

IT **Liquid crystals**

(lyotropic nematic, polarized absorption and fluorescence spectroscopy of dihydropyrrolopyrroledione in **liqs.** and **liquid crystals**)

IT 107680-82-0, 3,6-Bis(3,5-di-tert-butylphenyl)-2,5-dihydropyrrolo[3,4-c]pyrrole-1,4-dione 119273-54-0, 3,6-Bis(2-methoxyphenyl)-2,5-dimethylpyrrolo[3,4-c]pyrrole-1,4-dione 119273-55-1, 3,6-Bis(2-methoxyphenyl)-pyrrolo[3,4-c]pyrrole-1,4-dione 163403-13-2, 3,6-Bis(2-methoxyphenyl)-2-hydro-5-methylpyrrolo[3,4-c]pyrrole-1,4-dione
RL: PRP (Properties)

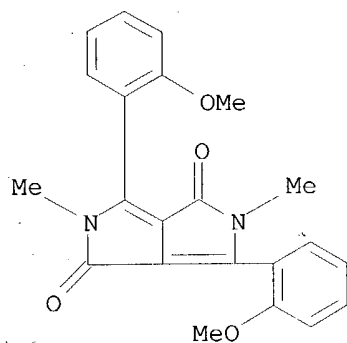
(polarized absorption and fluorescence spectroscopy of dihydropyrrolopyrroledione in **liqs.** and **liquid crystals**)

IT 119273-55-1, 3,6-Bis(2-methoxyphenyl)-pyrrolo[3,4-c]pyrrole-1,4-dione

RL: PRP (Properties)

(polarized absorption and fluorescence spectroscopy of dihydropyrrolopyrroledione in **liqs.** and **liquid crystals**)

RN 119273-55-1 HCAPLUS
CN Pyrrolo[3,4-c]pyrrole-1,4-dione, 2,5-dihydro-3,6-bis(2-methoxyphenyl)-2,5-dimethyl- (9CI) (CA INDEX NAME)



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